

INSTRUCTION MANUAL

Stand-Alone 8 Channel

DIGITAL VIDEO RECORDER

MODEL CDR0850

Ver.041309, 042909, 102609



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About this manual

This is the Instruction Manual for Stand-alone type DVR model **CDR0850**.

This Manual describes how to install and operate the Stand-Alone DVR and provides specifications and features.

Please read this manual thoroughly and follow the installation process before using Stand-alone DVR (Note: Be sure to correctly follow step 3. What to do at the time of installation).

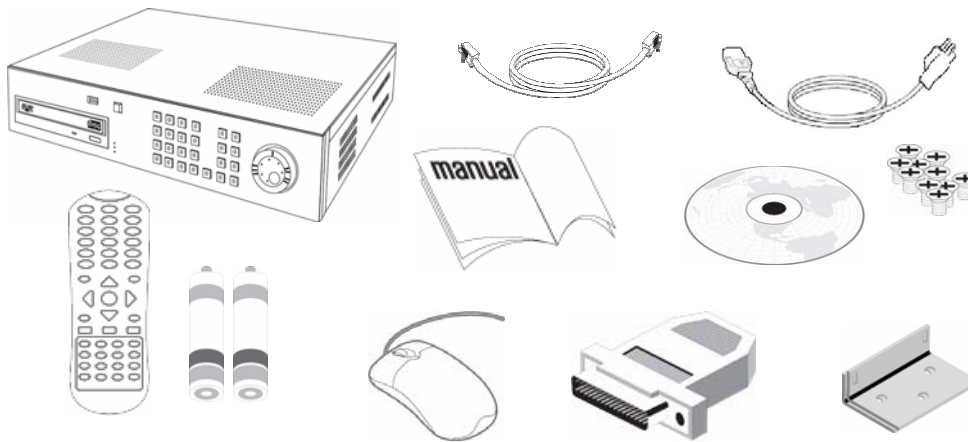
Contact our dealers when you have any queries.

1 Unpacking

Care should be taken when unpacking to avoid damaging the unit.

Please check that the following items are included:

- ▶ Stand-alone DVR unit
- ▶ All Accessories : Bracket, Power Cable, Screws
- ▶ Remote Controller & Battery
- ▶ USB or PS2 Mouse
- ▶ DSUB 26p Connector (Sensor Input, Relay Output Selection)
- ▶ Instruction Manual
- ▶ Host Program (SmViewer) on CD
- ▶ RJ-45 Cable



Note: Contact your dealer immediately if any components are missing.

Stand-alone DVR (Digital Video Recorder) Unit

CDR0850 is the most reliable and functional embedded DVR system available today. The system displays 8 channels of live images in Real Time speed, compresses data digitally and records them to the Hard Disk Drive, which can be replayed and searched easily any time.

The **CDR0850** supports easy back up via USB port, DVD R/W, CD R/W and networking in both static & dynamic IP modes.

User can remotely view live images or search the recorded images.

Under emergency situation, the remote operator can control, turn on and turn off the field installed alarms, such as a siren or light.

It is a very user- friendly DVR system. User can control the **CDR0850** by Mouse or Buttons on the front panel or Remote controller.

2 Features

► Multi Functional Record

-Powerful, multiple Record Modes available: Manual (Continuous), Timer, and Motion Detection Recording.

► User friendly GUI

-A few simple buttons for Easy control.

► Automatic System Recovery

-Automatic and Complete System recovery within 10 seconds.

► Easy PTZ control via RS port

-No need to use PTZ controller

-PTZ control from remote PC

► Simple Network Configuration

-DHCP based automatic network set-up-Easy Network Configuration from Dynamic IP to Dynamic IP

► MPEG-4 Algorithm Compression

-The most advanced compression available today.

► Multiple Video Display

-Support CCTV monitor or TV and High resolution video display by VGA monitor-Important Image automatic display by spot monitor.

► Flexible Networking

-Support TCP/IP and Remote Control on all DVR features-Up to 10 users can remote access simultaneously.

► Internet Explorer

-Up to 10 users can remote access simultaneously.

► Easy Data Playback in any PC

-Back Up data convertible to AVI file format.

► Back UP

-DVD R/W, CD R/W, External HDD, Stick memory, and through network access.

► Jog/Shuttle

-Frame by frame playback/playback / Control the playback speed for both forward and reverse by turning the shuttle to left or right.

3 What to do at the time of Installation

Stand-alone DVR should be installed in the following order;

1. Make sure all the required hardware is available.
 - Stand-alone DVR unit (including HDD)
 - Up to 8 cameras (including power source)
 - CCTV monitor or VGA monitor (or TV set)
 - Network cable if connecting to a PC
2. Connect the cameras, the DVR unit and monitor (Refer to Fig 5-3).
4. Confirm live video is displayed on the monitor before going to the next step.
5. Select the Setup Menu and set current date and time (Refer to Section 7-2.1).
6. Run the FACTORY DEFAULT setting in the SYSTEM menu.
7. Perform HDD formatting.
8. Escape from Setup Menu.
9. Set values for required options.
10. Network cable should be connected to the DVR unit before turning the power on.
Refer to Fig 5-11 for the cable specification.

4 Specifications

	ITEM	DESCRIPTIONS	
VIDEO SIGNAL	Television System	NTSC	PAL
	Refresh Rate	60 fields/sec	50 fields/sec
	Video Resolution	720x480	720x576
	Video Inputs	8 Cameras	
	Video Input Signal	Composite 1.0 Vp-p 75 Ohms	
	Video Outputs	8 looping, Main monitor, Aux monitor, SVHS, VGA	
	Video Output Signal	Composite 1.0 Vp-p 75 Ohms	
VIDEO FEATURES	Live	240 Frames/sec display	200 Frames/sec display
	Zoom	2 times digital	
	Sequence	Sequence display in Full size	
	Display Format	1 screen(full), Quad pages split, 9 split	
	Video enhance	Brightness, Contrast control each camera	
	VGA enhance	Brightness, Contrast, saturation	
AUDIO FEATURES	G.723	4ch Input / 1ch Output	
RECORD	Recording Speed	240 Frames/sec	200 Frames/sec
	Recording resolution	720x480,720x240,360x240 (NTSC) / 720x576,720x288,360x288 (PAL)	
	Codec	Mpeg4	
	Recording	Timer, Motion, Alarm, Manual individually set	
	Pre record	0~5 sec	
	Material	3 IDE HDD(Auto overwrite)	
SEARCH	Manual, Timer, Motion, Alarm, Each Camera, All Camera	Fast x128, Slow, Forward, Reverse, Frame by Frame	
BACKUP	DVD R/W, CD R/W, HDD, Stick memory, through Network	(DVD R/W Installed) Each Camera, ALL Camera, Time range	
Recorded data lock	Data protect in overwrite HDD	Time range, Back up	
USER INTERFACE	GUI	RGB 24bit full color	
	Operating interface	Mouse, Keypad, IR remote controller, Network	
	Operating Help	Instant on screen display	
NETWORK	Ethernet 10/100M Auto	TCP/IP, DHCP, MNS server	
PC Program	Remote viewer	Same as DVR monitor (Mouse or Key botton)	
	PC Player	DVD, CD, HDD bay, Stick memory, Internal	
USB	USB 2.0	for external DVD R/W, CD R/W, HDD, Stick memory	
SERIAL	RS232 / RS422 / RS485	8 camera Pan/Tilt, Remote control	
ALARM	Alarm Inputs	8 Inputs	
	Alarm Outputs	4 Relay Output(3A max)	
	Alarm latch up	1 ~ 10 sec	
	Buzzer Out	On/Off	
HDD	IDE(ATA)	3 HDD Bays (1pc of HDD preinstalled: refer to the retail box)	
POWER	Input Voltage	AC 110V/ 220V(Selectable) 50~60Hz	
	Power consumption	Approx. 80W	
CONNECTORS	Video Inputs	8 BNC	
	Video Outputs	8 BNC(Looping)	
	Main, Aux monitor Output	2 BNC, 1 Y/C(mini DIN4P)	
	VGA monitor Output	15pin HDSUB	
	Alarm In/Out	26pin HDSUB	
	RS485 /RS422	9pin DSUB	
	Ethernet	RJ45	
	Mouse(PS2)	6pin Mini DIN	
MECHANICAL	Dimension(m/m)	430(W)x375(D)x90(H)	
	Weight	Approx. 22 Lbs	
ENVIRONMENT	Operating Temperature	0 ~ 60° C	
	Humidity	10 ~ 90%	

[Fig 4-1 Specifications]

Design and the specifications are subject to change without notice.

5

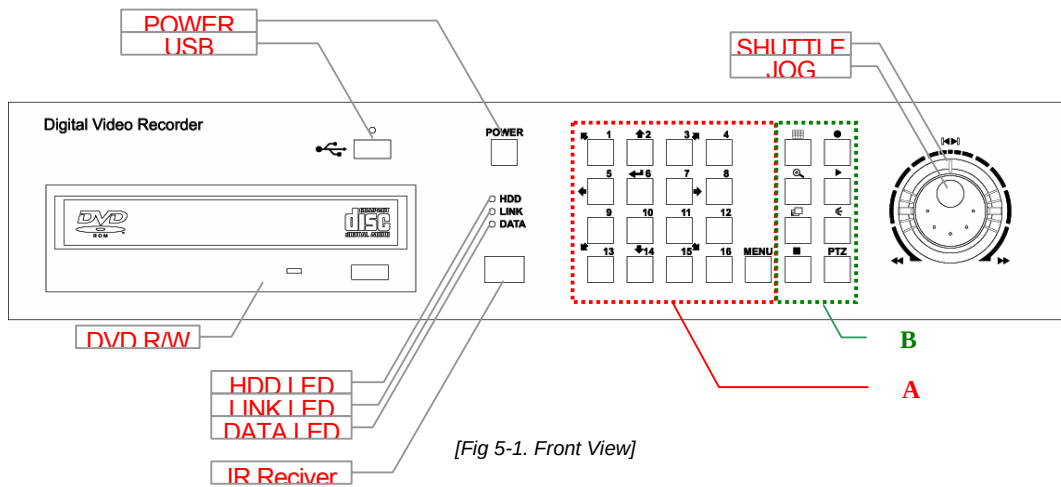
Installation

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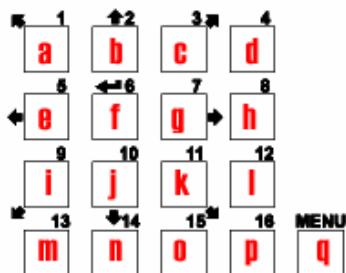
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5-1. Controls and Connectors (For 8Ch & 16Ch DVR)

● Front



- A



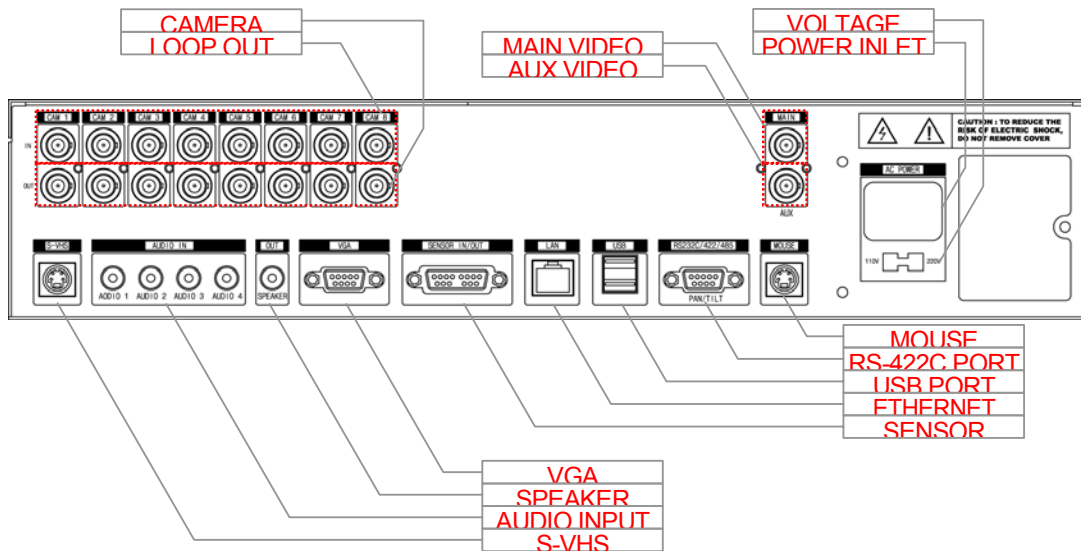
- a. 1 Channel(FULL Screen)
- b. 2 Channel(FULL Screen), UP Key
- c. 3 Channel(FULL Screen)
- d. 4 Channel(FULL Screen)
- e. 5 Channel(FULL Screen), LEFT Key
- f. 6 Channel(FULL Screen), ENTER Key
- g. 7 Channel(FULL Screen), RIGHT Key
- h. 8 Channel(FULL Screen)
- i. 9 Channel(FULL Screen)
- j. 10 Channel(FULL Screen), DOWN Key
- k. 11 Channel(FULL Screen)
- l. 12 Channel(FULL Screen)
- m. 13 Channel(FULL Screen)
- n. 14 Channel(FULL Screen)
- o. 15 Channel(FULL Screen)
- p. 16 Channel(FULL Screen)
- q. MENU

- B



- a. Display (Full / Split)
- b. Emergency Record
- c. Zoom
- d. Quick Replay
- e. OSD On/Off
- f. Audio
- g. Stop (ESC)
- h. PTZ

● Rear



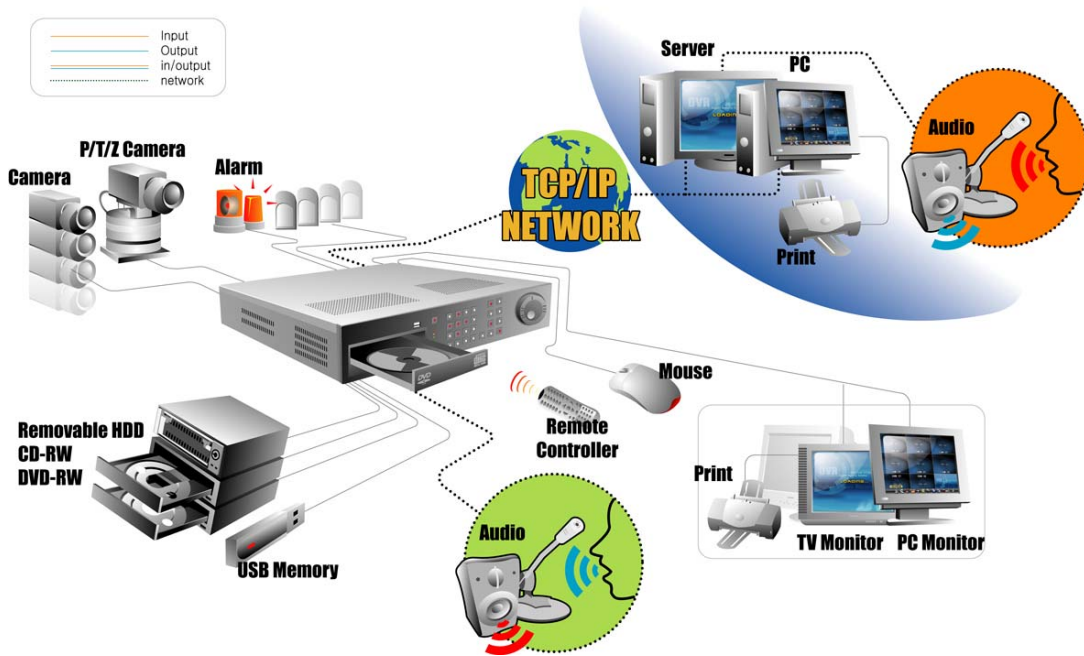
[Fig 5-2. Rear View]

5-2. Note for Installation

- ◆ Install the system according to the instructions described in this manual.
- ◆ This product is designed for indoor use and should not be used outdoors.
- ◆ Avoid any area with high humidity or dust which can shorten lifetime of the unit.
- ◆ Choose a well ventilated area and keep minimum of 10" away from obstructions. Do not place the unit near heat generating devices. Do not place items on top of the unit.
- ◆ Avoid any area with movement as this can interfere with the internal Hard Drive.
- ◆ Use a compatible input/output signal type of cameras and monitor.
- ◆ Contact your dealer if you are having any difficulty.

The Warranty may be voided in case of unauthorized disassembling, abuse or modification.

5-3. System Connection



[Fig 5-3. System Connection]

5-4. Installation

5-4.1. Camera Connection

▫ Connection of Normal Cameras

Connect the cameras to the Video Input (BNC connector) on the back of the unit as shown above [Fig. 5-3 System Connection].

▫ Connection of Loop Output

The Camera or video output is available from the Video Output (Loop Output) on the back of the unit. (When BNC jack is connected to the Video Output, the termination resistance (75Ω) is automatically switched to impedance status so the external device must have termination resistance.)

5-4.2. Monitor Connection

▫ Connection of Main Monitor

Connect a composite monitor to "Main" on the upper part of BNC connector

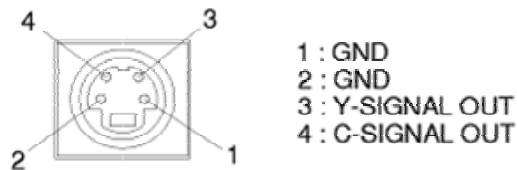
▫ Connection of Auxiliary Monitor

Connect an auxiliary monitor to "Aux" on the lower part of BNC connector. The output of auxiliary monitor port is the same as the main monitor.

▫ Connection of S-VHS Monitor

Connect a S-VHS monitor cable to "S-VHS" DIN jack on the rear of the unit. Output for S-VHS monitor is the same as that of main or auxiliary and works independently

Pin configuration of S-VHS connector.

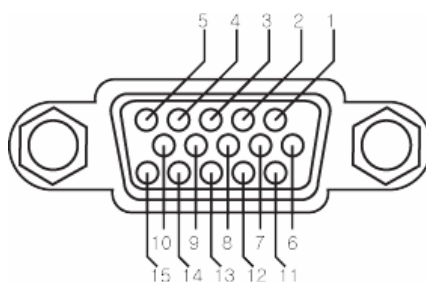


[Fig 5-4. S-VHS Connector PIN]

▫ VGA Monitor Connection

Connect the VGA Monitor's connector to the "DSUB 15 Pin Connector" on the rear of the unit. Output for VGA Monitor is the same as that of the main screen, however it outputs a better quality signal.

Pin configuration of VGA Connector.



[Fig 5-5. VGA Connector PIN]

Number	Description	Number	Description
1	R(75Ω, 0.7Vp-p)	9	N/C
2	G(75Ω, 0.7Vp-p)	10	GND
3	B(75Ω, 0.7Vp-p)	11	GND
4	N/C	12	N/C
5	GND	13	HSYNC
6	GND	14	VSYNC
7	GND	15	N/C
8	GND		

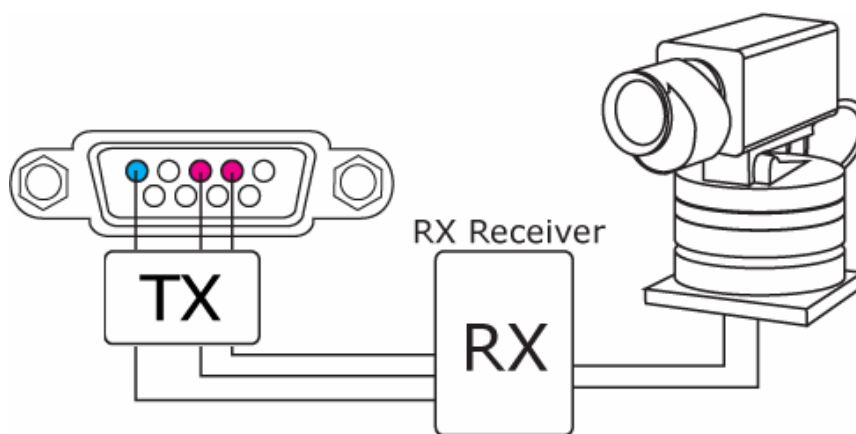
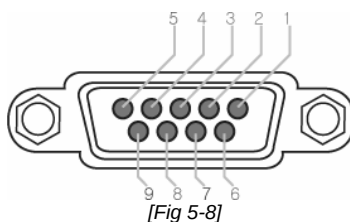
5-4.4. RS232C Connection

- Connect the cable to the “RS232C PORT” on the rear of the unit.

Specification of the RS232C connector is standard for “DSUB9”

The Maximum Length of cable is 45 ft. When you want to use a longer distance, use “RS323 to RS422” converter

Refer to [Fig 5-8], [Fig 5-9], [Fig 5-10] for connection of Connector PIN

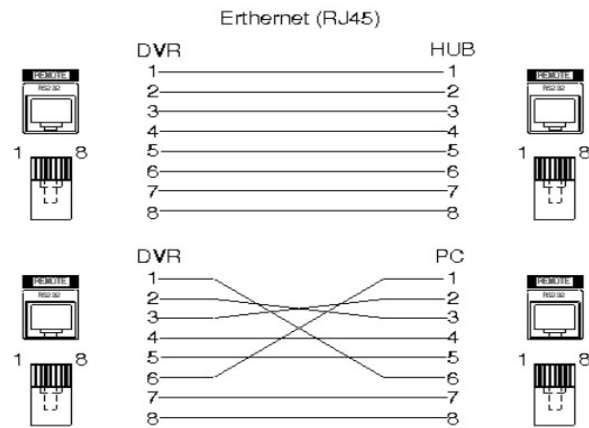


5-4.5 Connection to an Ethernet (Optional) Network

▫ **Connecting the cable to Ethernet.**

Our Ethernet connector is a RJ45 type. The maximum cable length is 300 ft. When you want to use a longer cable, we suggest using repeater.

Refer to [Fig. 5-11] for connector pin configuration.



[Fig 5-11]

5-4.6. POWER CONNECTION

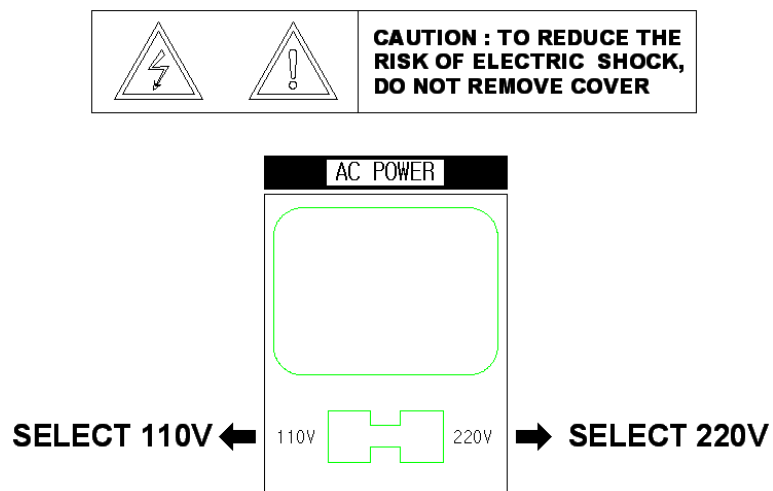
Select proper voltage (see fig 5-12) and connect to a reliable power source.

It should not be shared with other electrical equipment on the same line.

Poor performance can occur if the connected voltage is more than 10% plus or minus the required voltage.

Frequent power cuts can cause crucial failures, so if you have an unstable power source we recommend the use of an Uninterrupted Power Supply or other backup power source.

AC Input Voltage is AC110V 50/60Hz or AC220V 50/60Hz. AC power Source vary depends on countries. Factory default setting is AC110V 50/60Hz.



[Fig 5-12 Input power selection]



Note: Before you input the AC power to the system, make sure that the selector switch conforms to the correct input voltage.

6

How to operate

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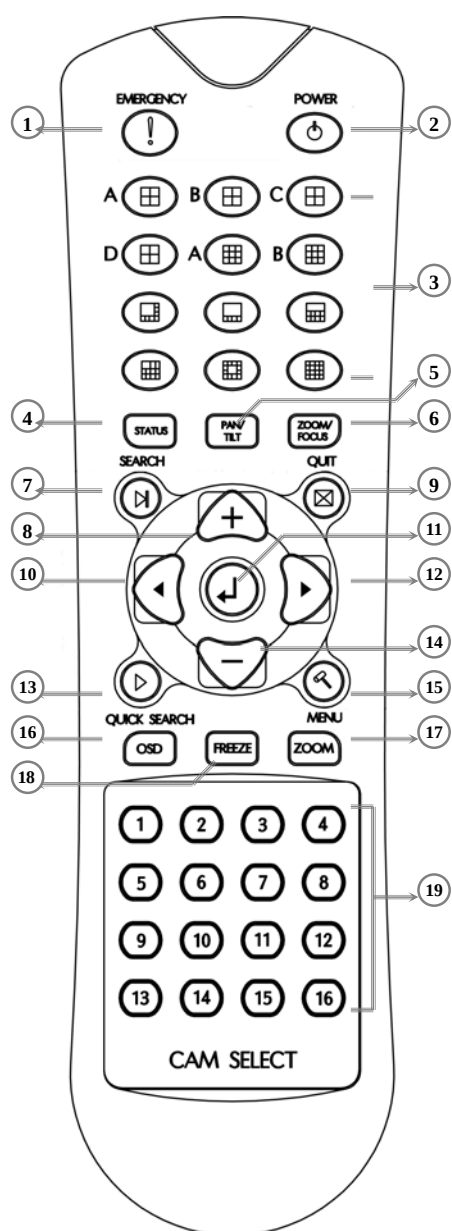
6-1. General Information

- You can operate all functions of the system by use of the buttons located on the front panel, remote controller and a mouse. Additionally, you can remotely control this unit via RS422C or the Ethernet port located on the back of the unit.
- System status is indicated by either LED lights on the operator buttons or the monitor.
- The system is protected from any accidental pressing of any operator buttons, but care should be taken when using the functions of HDD Formatting as this can lead to data loss.

6-2. Operating Interface

There are 3 ways to operate the system by pressing the buttons on the front panel or buttons on the remote controller and clicking the mouse. A lot of users mostly prefer to use a mouse on these kinds of products such as DVRs, computers and computer-aided devices. Therefore we would like to describe all the instructions in this manual based on using the mouse.

6-3. IR Remote Controller



-
1. Record
 2. Power On/Off
 3. Display format (Split)
 4. System status
 5. Pan / Tilt
 6. Zoom / Focus
 7. Search for replaying
 8. Up
 9. Quit
 10. Left
 11. Enter
 12. Right
 13. Quick Replay
 14. Down
 15. Menu (Setup)
 16. OSD On/Off
 17. Zoom
 18. Freeze / IR ID Config
 19. No.1~8 Channel (Full Screen)
/ No. 1 ~ 16 IR ID Config
-

[Fig.6-1 IR Remote Controller]

6-4. Power On/Off

6-4.1. POWER ON

On the front panel or the remote controller:

Press the **POWER** button on the front panel for approx. 3 seconds until the LED lights are turned on or just press the **POWER** button on the remote controller.

6-4.2. POWER OFF

On the front panel or the remote controller:

Press the **POWER** button on the front panel for approx. 3 seconds until the LED lights are turned off or just press the **POWER** button on the remote controller and then the following message will be displayed on the screen.



[Fig.6-2 Message of POWER off]

- Press the ENTER (↵) button to turn the power off.

By clicking the mouse:

- Click the **POWER OFF** button on the MENU bar (See Fig.6-3) and then the message (See Fig.6-2) will be displayed on the screen.
- Click the **OK** button to turn the power off.



[Fig.6-3 POWER button on MENU bar]

6-4.3. APPEARANCE OR DISAPPEARANCE OF POWER BUTTON

The Power On/Off button and the Audio buttons (See section 6-7.4) as shown in Fig.6-3-1 will always stay on the MENU bar when the system is not connected through the **SmViewer** (Client Host Program or Internet Explorer). But the Power On/Off button and the Audio buttons on the MENU bar as shown in Fig.6-3-1 will be disappeared on the screen of the DVR and the client's computer when the system is connected through the **SmViewer** and the mouse pointer is on the **SmViewer** (See Fig. 6-3-2).

We designed this function so that users can not turn the power On/Off or control the audio functions on the DVR system through internet.



[Fig.6-3-1 Power & Audio buttons]



[Fig.6-3-2 No Power & Audio buttons]

To appear the buttons (See Fig.6-3-1) on the MENU bar: just move the Mouse-pointer on the screen of the DVR system only, not on the SmViewer.

6-5. Menu Bar On/Off

Right-click on the screen in the LIVE or the RECORD mode. The MENU bar will be appeared and then displayed for 15 seconds. Right-click again, then it will be disappeared.



[Fig.6-4 LIVE Screen]

6-6. Display Screen

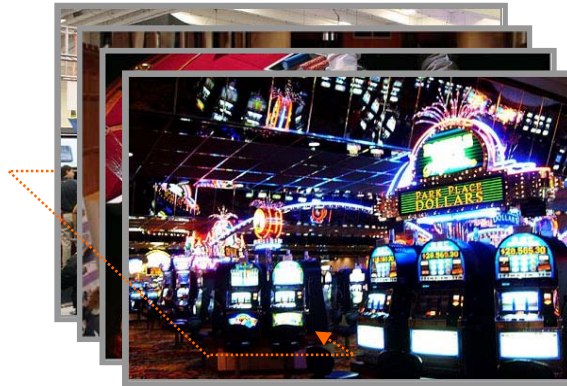
6-6.1. FULL SCREEN



6-6.2. SPLIT SCREENS



FULL SCREEN



SEQUENCING SCREEN



[4A] 1st QUAD SCREEN



[4B] 2nd QUAD SCREEN



8 SPLIT SCREEN

6-7. LIVE

6-7.1. FULL SCREEN

- A Full SCREEN is available in the LIVE mode or the RECORD mode.
- Click on a certain camera's screen in the LIVE mode or in the RECORD mode, then a FULL SCREEN will be displayed.
- Click the FULL screen to return to the SPLIT SCREEN.

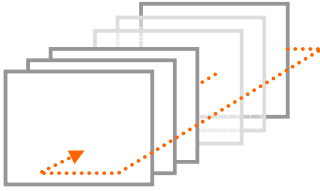
6-7.2. SPLIT SCREEN

- A SPLIT SCREEN is available in the LIVE mode or the RECORD mode.
- Click the DISPLAY icon on the MENU bar and then the pop-up screen will be displayed (See Fig.6-6).
- Click one of the SPLIT screens on the pop-up screen.



[Fig.6-6 DISPLAY pop-up screen]

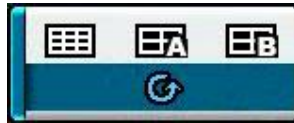
6-7.3. SEQUENCING SCREENS



- Displaying the cameras in SEQUENCE is available in the LIVE mode or the RECORD mode.

Each of the channels will be displayed in sequence and the dwell time can be adjusted in the camera set up menu (Refer to section 7-4.7).

-  This ICON is displayed in the upper left hand corner of the screen while the system is in the Sequencing Mode.
- Click a Full screen to return to the SPLIT screen while the system is sequencing.



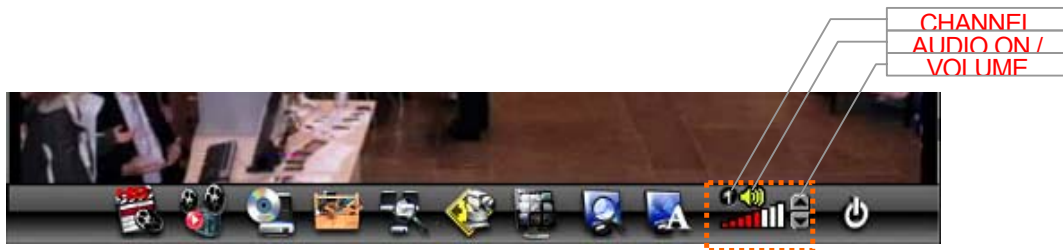
[Fig. 6-7 LIVE Menu DISPLAY pop-up window]



[Fig. 6-8 SEQUENCING screen]

6-7.4. LIVE AUDIO

- If cameras (up to 4 cameras) have audio function, it will sound in the live mode.
- Click the CHANNEL button you wish to listen on the MENU bar as shown below (See Fig.6-9). The CHANNEL can be changed by clicking the mouse repeatedly.
- Turn the AUDIO (speaker) ON by clicking the SPEAKER icon as shown below (See Fig.6-9). If the ICON turns in red by clicking, it represents that the AUDIO is turned OFF and if it turns in yellow, it represents that the AUDIO is turned ON.
- Adjust the Audio Volume by Clicking the ▲ or the ▼ button when the AUDIO is turned ON.



[Fig. 6-9 Audio buttons]



6-7.5. ZOOM

The image on the screen will be zoomed up to 2 times when the ZOOM button is clicked in the LIVE mode (This function is available on the full screen mode only).

- Click the ZOOM button on the MENU bar in the LIVE mode.
- Move the mouse on the ZOOMED screen, and then the 8-directional arrow marks will be appeared as shown below (Fig.6-10).
- Click the  (EXIT) button to return to the LIVE Mode.



[Fig. 6-10 ZOOMED screen]



6-7.6. OSD ON / OFF

OSD ON /OFF is possible in the LIVE mode or RECORD mode.

- Click the **OSD** button on the MENU bar to turn the OSD (On Screen Display) ON or OFF.

When the OSD is in OFF position, all the texts on the screen will be disappeared.



[Fig.6-11 OSD ON SCREEN]



[Fig.6-12 OSD OFF SCREEN]



6-7.7. PAN / TILT

- Click the **PAN/TILT** button on the MENU bar in the LIVE mode to access the PAN/TILT cameras.
- Click the  (EXIT) button to return to the LIVE mode.



[Fig.6-13 PAN/TILT button]



[Fig.6-14 PAN/TILT window]



[Fig.6-15 PAN/TILT CONTROL window]

▫ Channel Selection and Screen Conversion

To change a channel, press the CHANNEL button on the front panel or click the CHANNEL button on the [Fig.6-15 PAN /TILT CONTROL window]. It will be converted a full screen.

To return to the LIVE mode, press the SPLIT button on the front panel or click the  (EXIT) button.

▫ ZOOM / FOCUS

Control the ZOOM and FOCUS of PAN/TILT camera.

Click the ZOOM/FOCUS button on the PAN/TILT CONTROL window [Fig.6-15 PAN / TILT CONTROL window] or press the UP/DOWN/LEFT/RIGHT button on the front Panel.

▫ PAN / TILT

Control the PAN and TILT of PAN/TILT camera.

Click the PAN/TILT Button on the PAN/TILT CONTROL window [Fig.6-15 PAN / TILT CONTROL window] or press the UP/DOWN/LEFT/RIGHT button on the front Panel.

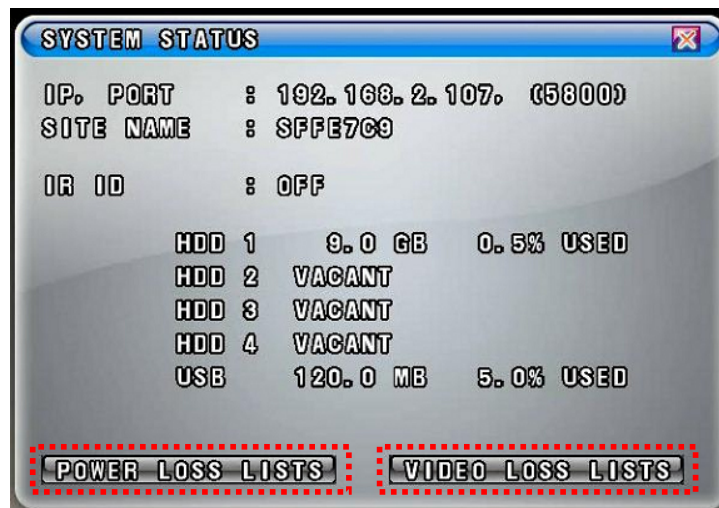


6-7.8. SYSTEM STATUS

- Click the SYSTEM STATUS button on the MENU bar to see the system status as shown below (Fig.6-16).
- Click the  (EXIT) button to return to the LIVE mode or RECORD mode.



[Fig.6-16 SYSTEM STATUS button]



[Fig.6-17 SYSTEM STATUS window]

6-7.9. POWER LOSS LISTS

The list indicates the time/date when the system power was turned OFF.

- Click the POWER LOSS LISTS button on the SYSTEM STATUS window to view the POWER LOSS LISTS.
- Each of the pages contains 10 lists. You can search the pages by clicking the UP/DOWN button.
- Click the  (EXIT) button to return to the LIVE or RECORD mode.



[Fig.6-18 POWER LOSS LISTS window]

▫ CLEAR LISTS button

Click the CLEAR LISTS button to clear the lists, you will be prompted to confirm changes.

When you click the OK button, the POWER LOSS LISTS will be deleted.

To cancel, click the CANCEL button



Fig.6-19 POWER LOSS LISTS Message

6-7.10. VIDEO LOSS LIST

The list indicates the video loss channel and the time/date when the video signal was disconnected.

- Click the VIDEO LOSS LISTS button on the SYSTEM STATUS window to view the VIDEO LOSS LISTS.
- Each of the pages contains 4 lists. You can search the pages by clicking the UP/DOWN button.
- Click the  (EXIT) button to return to the LIVE or RECORD mode.



[Fig.6-20 VIDEO LOSS LISTS window]



[Fig.6-21 VIDEO LOSS window]

▫ CLEAR LISTS button

Click the CLEAR LISTS button to clear the lists, you will be prompted to confirm changes.

When you click the OK button, the VIDEO LOSS LISTS will be deleted.

To cancel, click the CANCEL button



[Fig.6-22 VIDEO LOSS LISTS Message window]

6-8. Record



This system provides Watchdog function.

When power goes off during recording and then the power turns on, the system will automatically start recording.

6-8.1. Manual (Continuous) recording

- Click the SETUP icon on the MENU bar in the LIVE mode.
- Click the RECORD button in the SETUP menu and then the RECORD window will be displayed.
- Select the MANUAL RECORDING () between the MANUAL RECORDING () and the TIMER RECORDING () as shown in Fig.6-23. All channels can be set at the same time by clicking the ALL () or each of the channels can be set by clicking the MANUAL RECORDING () on the CAM 1 through CAM 8. The MOTION () and SENSOR () as shown in Fig.6-23 should be turned OFF in this recording mode.
- Press the RECORD button on the front panel or click the RECORD icon on the MENU bar.



[Fig.6-23. Manual Recording setup]

6-8.2. Manual Event Recording

- Click the SETUP icon on the MENU bar in the LIVE mode.
- Click the RECORD button in the SETUP menu and then the RECORD window will be displayed.
- Select the MANUAL RECORDING () between the MANUAL RECORDING () and the TIMER RECORDING () as shown in Fig.6-24. All channels can be set at

the same time by clicking the ALL () or each of the channels can be set by clicking the MANUAL RECORDING () on the CAM 1 through CAM 8.

The MOTION () or SENSOR () as shown in Fig.6-24 should be turned **ON** in this recording mode.

- Press the RECORD button on the front panel or click the RECORD icon on the MENU bar.



[Fig.6-24 Manual Event Recording setup]

6-8.3. Timer Recording

- Click the SETUP icon on the MENU bar in the LIVE mode.
- Click the RECORD button in the SETUP menu and the RECORD window will be displayed.
- Select the TIMER RECORDING () between the MANUAL RECORDING () and the TIMER RECORDING () as shown in Fig.6-25. All channels can be set at the same time by clicking the ALL () or each of the channels can be set by clicking the TIMER RECORDING () on the CAM 1 through CAM 8.
The MOTION () and SENSOR () as shown in Fig.6-25 should be turned **OFF** in this recording mode.
- Choose one among WEEKDAY, SATURDAY and SUNDAY in the TIMER menu by clicking the mouse on () that turns to (). You can choose the value () or () by repeatedly clicking the mouse.
- Select the Starting Time and Ending Time by clicking the mouse, change the values with the mouse's wheel and click the mouse again on the changed values to complete as shown in Fig.6-27. The recording time can be set in military hour mode (24hour).
- Press the RECORD button on the front panel or click the RECORD icon on the MENU bar.



[Fig.6-25 Timer Recording setup]

6-8.4. Timer Event Recording

- Click the SETUP icon on the MENU bar in the LIVE mode.
- Click the RECORD button in the SETUP menu and the RECORD window will be displayed.
- Select the TIMER RECORDING () between the MANUAL RECORDING () and the TIMER RECORDING () as shown in Fig.6-26. All channels can be set at the same time by clicking the ALL () or each of the channels can be set by clicking the TIMER RECORDING () on the CAM 1 through CAM 8.
The MOTION () or SENSOR () as shown in Fig.6-26 should be turned **ON** in this recording mode.
- Choose one among WEEKDAY, SATURDAY and SUNDAY in the TIMER menu by clicking the mouse on () that turns to (). You can choose the value  or  by repeatedly clicking the mouse.
- Select the Starting Time and Ending Time by clicking the mouse, change the values with the mouse's wheel and click the mouse again on the changed values to complete as shown in Fig.6-27. The recording time can be set in military hour mode (24hour).
- Press the RECORD button on the front panel or click the RECORD icon on the MENU bar.



[Fig.6-26 Timer Event Recording setup]



[Fig.6-27 Example for Timer Recording]

6-8.5. Recording Icons

The Recording Icons depends on recording modes are displayed in the upper left hand corner of the screen.

- To turn the Recording Icon OFF, click the DISPLAY ON in the RECORD menu and then it will be turned OFF. You can select the value **ON** or **OFF** by repeatedly clicking the mouse.



Manual (Continuous) Recording



Event Recording Ready



MOTION Event Recording



SENSOR Event Recording

[Fig.6-28 Recording Icons]

6-9. REPLAY

6-9.1. QUICK REPLAY

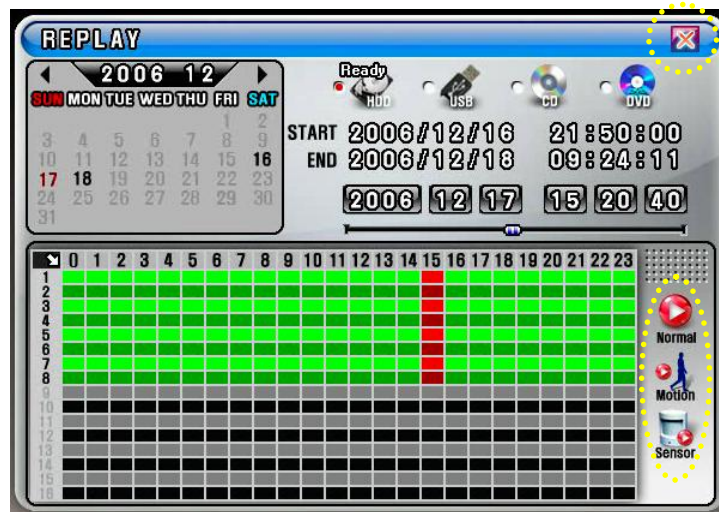
It is available only by pressing the PLAY button on the front panel or the QUICK SEARCH button on the remote controller.

- Press the PLAY button, then the recent recorded data will be played.

6-9.2. REPLAY



- Click the REPLAY icon on the MENU bar, then the REPLAY window as shown in Fig.6-29 will be displayed.
- Click the  (EXIT) button to return to the previous mode.



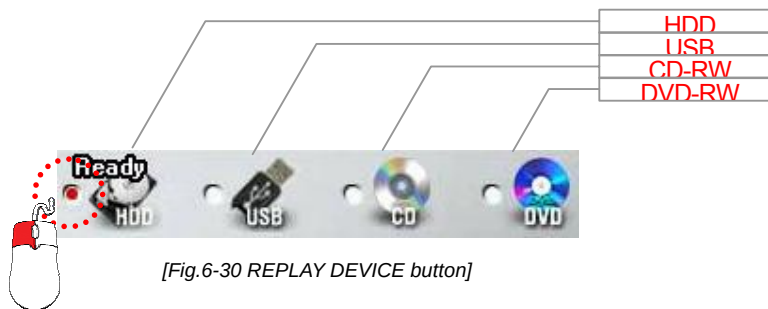
[Fig.6-29 REPLAY window]

6-9.2.1. Playback Devices

In order to playback, plug the USB devices such as external USB HDD, USB memory to the USB port or insert a recorded media (CD-R/W or DVD-R/W) into the DVD-R/W drive.

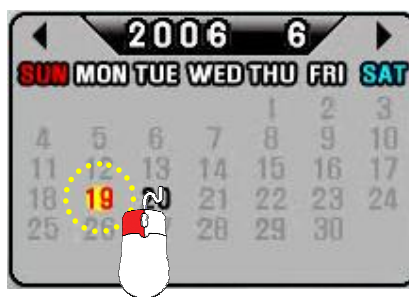
When the devices are ready to playback, the **Ready** on the corresponding devices will be displayed as shown in Fig.6-30.

- Click the mouse on a device among HDD, USB, CD-R/W and DVD-R/W that is displaying the **Ready** (See Fig.6-30). The corresponding LED will be lit in red when the device is selected.



6-9.2.2. Set the Start Time

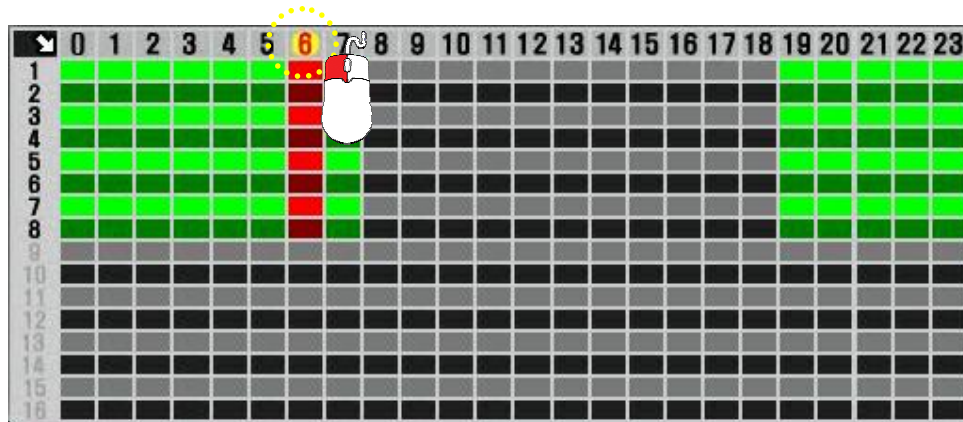
- Select the Date (year / month / day) on the calendar by clicking the mouse on the highlighted character in black that turns to highlighted character in red (See Fig.6-31). The highlighted character in black indicates the dates and times that contains recorded data, and the highlighted character in red indicates the selected dates and times.
- Select the month (year) by clicking the mouse on the ◀button or ▶ button.



6. How to Operate

- Select the hour on the Start Time Select Window (See Fig.6-32) by clicking the mouse on the Hour (0 – 23 hour) you wish to start to play.

The green active buttons indicate the HOUR that contains recorded data, and the red active buttons indicate the selected Start HOUR.



[Fig.6-32 Start Time Select window]

By using the Replay Time set-up buttons:

The time and date can also be set on the Replay Time set-up button window (See Fig.6-33).

- Select the values (year/month/date and hour/minute/second) by clicking the mouse, change the values with the mouse's wheel and click the mouse again on the changed values to complete as shown in Fig.6-33.



[Fig.6-33 Replay time set-up button]

By using the Replay Time set-up bar:

The starting time to play can also be set by clicking the slider on the bar and dragging it or clicking the bar.



[Fig.6-34 Replay time set-up bar]

6-9.2.3. Replaying

Replaying start time set-up can be possible within a recording time extent.

- Replay buttons (NORMAL / MOTION / SENSOR)



NORMAL PLAY: Click the button to play all the recorded data.



MOTION PLAY: Click the button to play the recorded data by MOTION only.



SENSOR PLAY: Click the button to play the recorded data by SENSOR only.

- How to control the buttons while replaying



[Fig.6-35 Replay screen]

① Search Slider

It is possible to playback by clicking the slider on the bar or dragging it.

② PLAY / PAUSE

Click the  button to pause.

Click the  button to replay when in the pause mode.

③ REW/FF

During replaying, press the  or  button, or turn the shuttle ring on the front panel for fast rewinding and fast forwarding up to 128 times.

Keep pressing the  or  button to accelerate the speed up to 128 times.
(Same as shuttle ring)

④ PREV / NEXT

During replaying, press the  button to view previous frame in still image and press



the button to view the next frame in still image.

⑤ Speaker ON / OFF

Turn speaker ON or OFF.

⑥ Speaker Volume

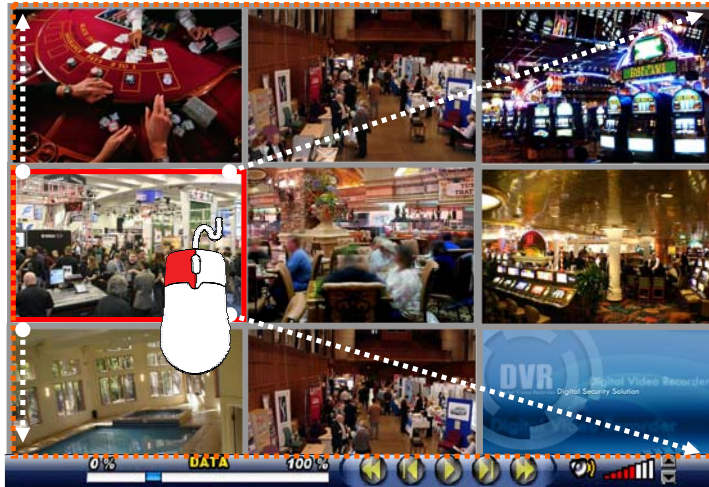
Adjust the Audio Volume by clicking the ▲ or the ▼ button when the AUDIO is turned ON.

6-9.2.4. Disappearance of Replay control buttons

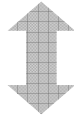
During replaying, the replay control buttons appear on the bottom of the screen. To disappear, drag the mouse pointer downward until the replay control buttons disappear and to appear, drag the mouse pointer upward until the replay control buttons appear.

6. How to Operate

- Click the mouse on one out of channels during replaying to view a full screen.
- Click the mouse on the full screen during replaying to return to the split screen.



[Fig.6-36 SPLIT screen during replaying]

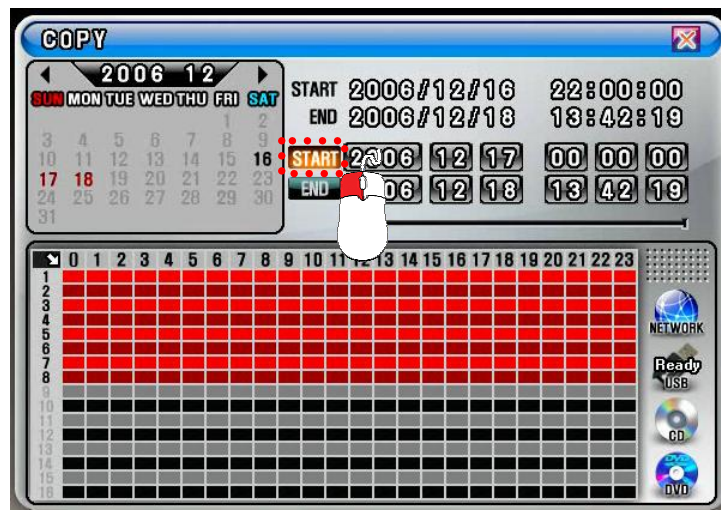


[Fig.6-37 FULL screen during replaying]

6-10. COPY



- Click the COPY icon on the MENU bar, and then the COPY window as shown in Fig.6-38 will be displayed.
- Click the  (EXIT) button to return to the previous mode.



[Fig.6-38 COPY window]

6-10.1. Copying devices

In order to copy the recorded data, plug the USB devices such as external USB HDD, USB memory to the USB port or insert a blank media (CD-R/W or DVD-R/W) into the DVD-R/W drive.

When the device and Media are ready to copy, the **Ready** on the corresponding device and Media will be displayed as shown in Fig.6-38.

We recommend you to format the USB devices prior to copy the recorded data as follows, but the Medias such as CD-R/W and DVD-R/W don't need to format.

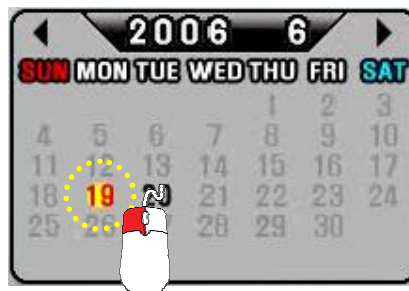
- Connect the USB devices to the DVR
- Click the SETUP icon on the MENU bar, and the SETUP menu will be displayed.
- Click the DISK MANAGER in the SETUP menu, and the DISK MENAGER will be displayed.
- Click the mouse on the USB button in the DISK MANAGER, and you will be asked.
- Click the OK, and then the progressive bar will be showing along with FORMATTING USB....

In regards to blank Medias (CD-R/W and DVD-R/W)

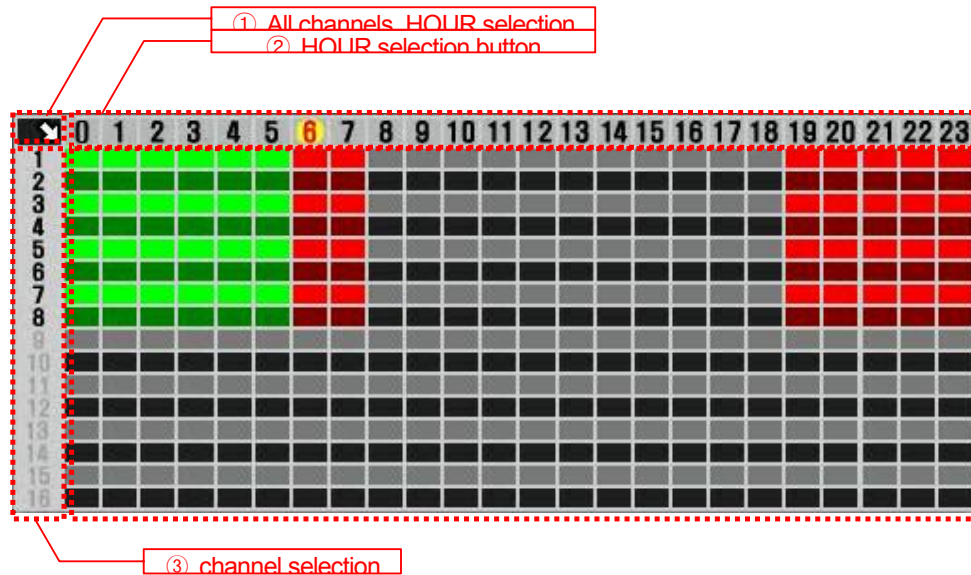
Most Medias can be used with the system, but some of them may be not compatible with. Refer to the included instructions related to Medias or visit the website of DVD/CD DRIVE unit manufacturer for more information.

6-10.2. Set the Copy Start Time (Copying extent)

- Select the Date (year / month / day) on the calendar by clicking the mouse on the highlighted character in red that turns to highlighted character in black (See Fig.6-39).
The highlighted character in black indicates the dates and times that contains recorded data, and the highlighted character in red indicates the selected dates and times.
- Select the month (year) by clicking the mouse on the ◀button or ▶ button.
- Select the hour on the Copy Start Time and Channel Selection Window (See Fig.6-40) by clicking the mouse on the Hour (0 – 23 hour) you wish to start to copy.
The green active buttons indicate the HOUR that contains recorded data, and the red active buttons indicate the selected Start HOUR.



[Fig.6-39 Calendar for Copying]



[Fig.6-40 Copy Start time and Channel Selection window]

① All channels, HOUR selection button.

Click the arrow button on the upper left corner as shown in Fig.6-40 to set the full extent of the recording and all the channels simultaneously.

② HOUR selection button

Select the start time to copy by clicking the mouse on HOUR (0-23: in the military hour). Thereafter the extent of the copy will be saved on.

③ Channel selection button

Some channels can be selected by clicking the mouse on the corresponding channels.

By using the Copy Start/End set-up buttons:

The time and date can also be set on the Copy Start/End set-up buttons window (See Fig.6-41).

- Select the values (year/month/date and hour/minute/second) by clicking the mouse, change the values with the mouse's wheel and click the mouse again on the changed values to complete as shown in Fig.6-41.



[Fig.6-41 Copy Start/End setup buttons]

By using the Start/End set-up bar:

The starting time to copy can also be set by clicking the slider on the bar and dragging it or just click the bar.



[Fig.6-42 Copy Start/End setup bar]

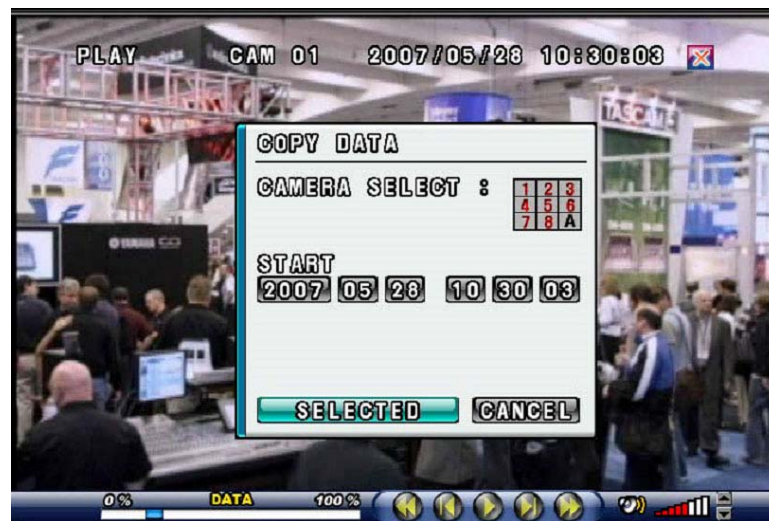
6-10.3. Set the Copy End Time (Copying extent)

Refer to the above explanation (See section 6.10.2.).

6-10.4. Copying the recorded data during replaying

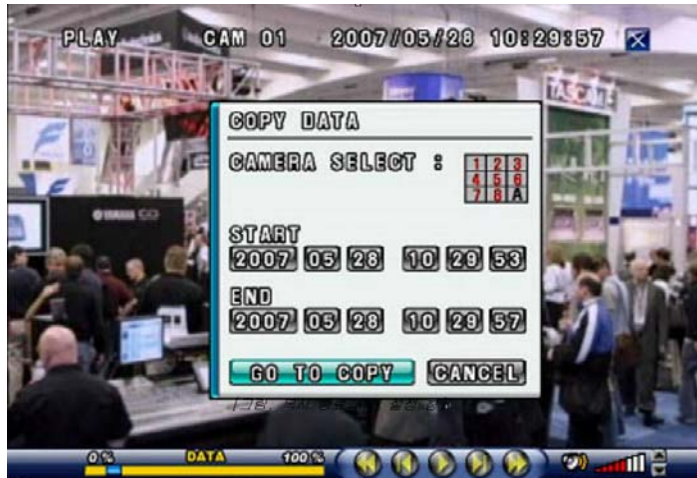
The system, CDR0850 allows users to copy the recorded data during replaying.

- Start replaying (See section 6-9).
- Right-click on the replaying screen, and the COPY DATA screen will be displayed (See Fig.6-43).
- **To set the starting time and date to copy**, select the values (year/month/date window and hour/minute/second) on the COPY DATA window by clicking the mouse, change the values with the mouse's wheel and click the mouse again on the changed values to complete.
- Select each of channels (1 through 8 in red) or "A" in black for all the channels on the COPY DATA window, and then click on the SELECTED button to save.



[Fig.6-43 Start Copy Time Setup window]

- **To set the ending time and date to copy**, right-click on the replaying screen again, and the COPY DATA window that contains end time for copying will be displayed (See Fig.6-44). Set the ending time and date to copy as described above.
- To select the COPY MODE, click on the GO TO COPY button (See Fig.6-44), and then the COPY window (See Fig.6-38) will be displayed. The time and date (starting time and ending time) to copy can be changed on the COPY window as well (See section 6-10.2).



[Fig.6-44 End Copy Time Setup window]

- Choose one among NETWORK, USB, CD and DVD which are ready to copy (See section 6-10.1).

Select COPY Mode

Only when the device and media are ready to copy, the **Ready** on the corresponding device and media will be displayed.



NETWORK COPY

Save the recorded data in **PC** through the **SmViewer** by Network.

Click the **Network** button on the **SmViewer** to start copying. It is available only on the **SmViewer** (not on the DVR) and the networking should be connected to the DVR.



USB COPY

Save the recorded data in **USB Device**.

Click the **USB Device** button to start copying.



CD-RW COPY

Save the recorded data on **CD-R/W** Media.

Click the **CD-R/W** button to start copying.



DVD-RW COPY

Save the recorded data on **DVD-R/W** Media.

Click the **DVD-R/W** button to start copying.

- As soon as one of the above buttons is clicked , copying will start along with displaying the icon shown in Fig.6-45.

The following icon indicates that copying is in process.



[Fig.6-45 Copying Icon]

7

SETUP

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7-1. SETUP



It is possible to set up the menus in the LIVE mode and partly in the RECORD mode.

- Click the “SETUP” button on the MENU bar and then the SETUP menu will be displayed.
- Click the  “EXIT” button to return to the previous mode.



[Fig.7-2 SETUP menu]

7-2. SYSTEM

- Click the "SYSTEM" button in the SETUP menu, and then the SYSTEM menu shown in Fig.7-3 will be displayed.
- Click the  "EXIT" button to return to the SETUP menu.



[Fig.7-3 SYSTEM menu]

7-2.1. TIME / DATE

- Click the "TIME/DATE" button in the SYSTEM menu, and then the TIME/DATE menu will be displayed (See Fig.7-4).
- Click the  "EXIT" button to return to the SYSTEM menu.



[Fig.7-4 TIME / DATE menu]

TIME FORMAT

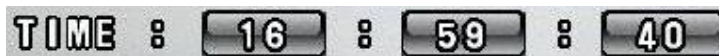
Click the mouse on the TIME FORMAT button to change and then select 24 HOUR or 12 HOUR by clicking the mouse.



[Fig.7-5 Time Format button]

TIME Settings

Select the values (AM or PM and hour/minute/second) by clicking the mouse, change the values with the mouse's wheel and click the mouse again on the changed values to complete.



[Fig.7-6 Time Setting]

▫ DATE FORMAT

There are three formats to display the time and date as follow.

- MM / DD / YYYY: For U.S.A.
- YYYY / MM / DD: For Asian countries.
- DD / MM / YYYY: For European countries.

Click the mouse on the DATE FORMAT button to change, and then select a DATE FORMAT among YYYY/MM/DD, DD/MM/YYYY and MM/DD/YYYY.



[Fig. 7-7 Date Format button]

▫ DATE Settings

Select the month, date and year by clicking the mouse, change the values with the mouse's wheel and click the mouse again on the changed values to complete.



[Fig. 7-8 Date Settings button]

▫ DISPLAY

It enables you to display the time and date on the Live screen.

Click the DISPLAY button to set display on or off.



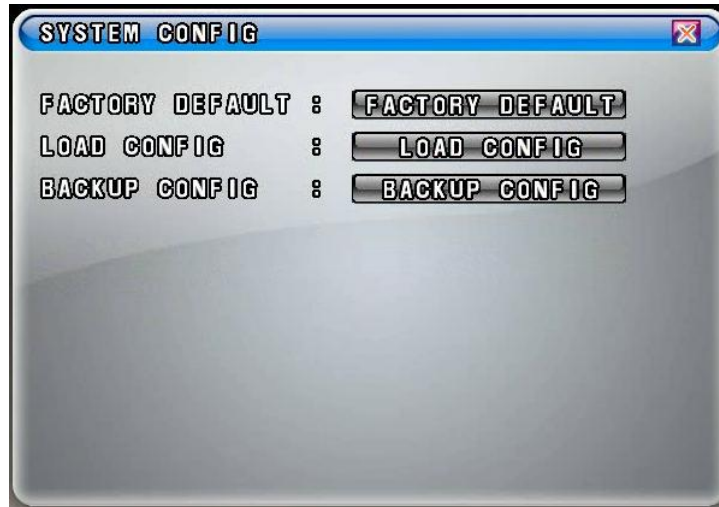
[Fig. 7-9 Display button]



Note: Setting the new time will cause loss of recording data. After setting the time, HDD should be formatted prior to start recording.

7-2.2. SYSTEM CONFIG

- Click the “SYSTEM CONFIG” button in the SYSTEM menu, and then the SYSTEM CONFIG menu will be displayed (See Fig.7-10).
- Click the  “EXIT” button to return to the SYSTEM menu.



[Fig.7-10 SYSTEM CONFIG]

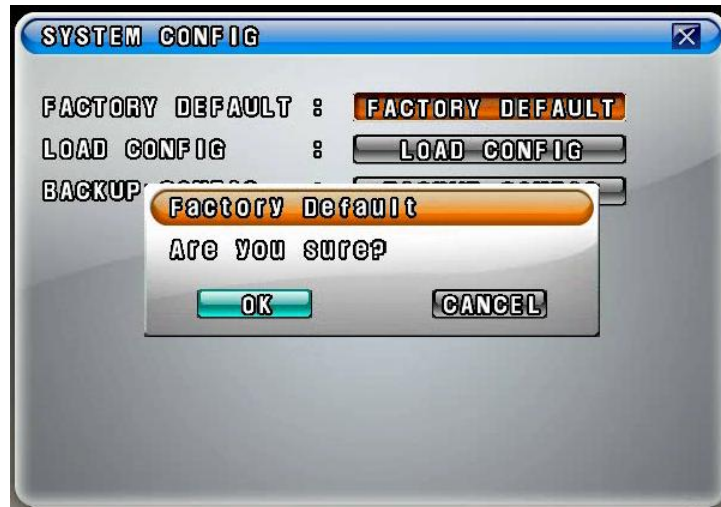
7-2.2.1. FACTORY DEFAULT

- Click the “**FACTORY DEFAULT**” button in the SYSTEM CONFIG menu, and you will be asked as shown in Fig.7-12.



[Fig.7-11 Factory Default button]

- Click the “OK” button in Fig.7-12 to reset to the Factory Default Values, and then the system will save the factory default values (settings).
Click the CANCEL button to cancel.



[Fig. 7-12 Confirmation window of Factory Default]

7-2.2.2. LOAD CONFIG / BACKUP CONFIG

You can save up to four different settings in the BACKUP CONFIG and load the files in the LOAD CONFIG to change the settings to the system.

▫ LOAD CONFIG

This function is to load the changed settings to the system.

- Click the LOAD CONFIG button and then the LOAD CONFIG window will be displayed (See Fig. 7-14).
- Select a backup file among FILE 1, FILE 2, FILE 3 and FILE 4 by clicking the mouse and click the LOAD button to change the settings (See Fig. 7-14).
- Click the CANCEL button to cancel.



[Fig. 7-13 LOAD CONFIG button]



[Fig.7-14 LOAD CONFIG window]

▫ BACKUP CONFIG

This function is to save the current settings to load the settings to the system. Save the current settings in the BACKUP CONFIG in order to load it to the system in the near future whenever you change the settings.

- Click the BACKUP CONFIG button and then the BACKUP CONFIG window will be displayed (See Fig.7-16).
- Select a blank file among FILE 1, FILE 2, FILE 3 and FILE 4 by clicking the mouse and click the BACKUP button to save the current setting (See Fig.7-16).
- To delete, click the mouse on the saved file and click the DELETE button.
- Click the CANCEL button to cancel.



[Fig.7-15 BACKUP CONFIG button]



[Fig.7-16 BACKUP CONFIG window]

7-2.3. PASSWORD

▫ ON/OFF

Select ON or OFF by clicking the mouse.

If the ON is selected, the password has to be entered to get into the SETUP mode, RECORD mode, COPY mode, REPLAY mode, and when trying to connect the network through the **SmViewer**.

▫ PASSWORD CHANGE

Click the password "*****" button and then the On Screen Keyboard will be displayed as shown in Fig.7-17. The factory default password is "11111111".

Delete the existing password with the  button on the On Screen Keyboard. Enter the new password by using the On Screen Keyboard and click the OK button to save.

The password should be 8 digits.

If you executed the factory default setting, the existing password will be changed to "11111111".



[Fig.7-17 PASSWORD KEYBOARD window]



Note: Don't forget the password.

7-2.4. IR REMOTE ID

Up to 16 DVR systems can be controlled by only one remote controller we provided, but IDs should be assigned on each of the systems. You don't have to assign any ID on the single unit and you can control the system with the provided remote controller without IR REMOTE ID, which is in the OFF mode (Skip this section).

- Click the IR REMOTE ID button and select one among OFF, 1 through 16 to assign an ID on the system by clicking the mouse.



[Fig.7-18 IR REMOTE ID button]

- When an IR Remote ID is assigned In the SYSTEM menu, press the “FREEZE” button and the same channel button on the remote controller as an assigned ID in the SYSTEM menu to match the IDs between the system and the remote controller. And then press the “FREEZE” button one more time for setting an ID.

When the FREEZE button and the channel button are pressed on the remote controller,

- if the channel button is identical to the assigned ID, the DETECT IR ID as shown in Fig.7-19 will be displayed along with the IR ID number.
- if not, the IR ID DENIED as shown in Fig.7-20 will be displayed along with the denied IR ID number.



Fig.7-19 DETECT IR ID Message

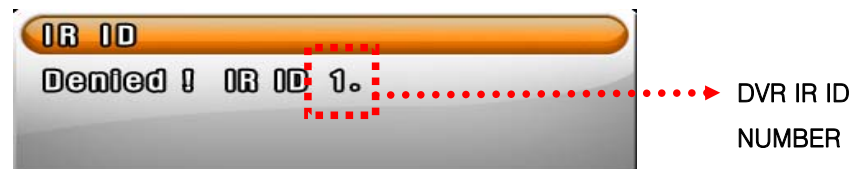


Fig.7-20 IR ID DENIED Message

7-2.5. FIRMWARE UPDATE

There are two ways to update the firmware through **USB memory** and the **SmViewer** (GUI).

We recommend users to update the firmware only in the LIVE mode.

▫ **By USB memory**

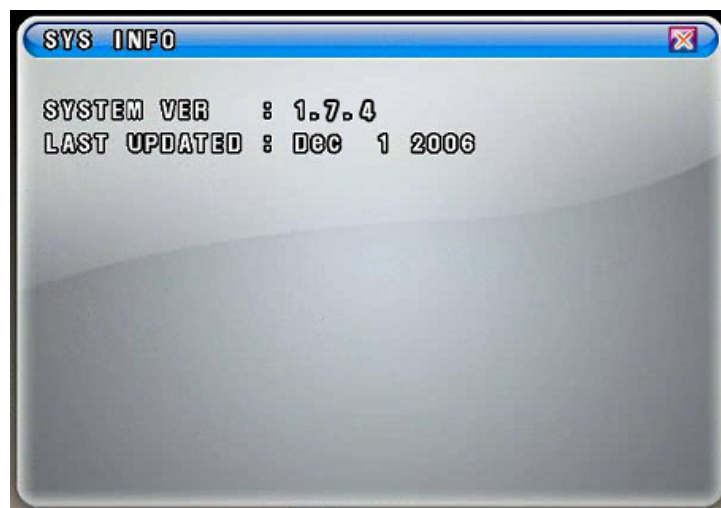
- Format the USB with your computer and save the firmware file on it (not including folder).
- Plug it on the USB port on the DVR.
- Click the mouse on the SELECT button in the SYSTEM menu and the FIRMWARE LIST will be displayed.
- Click on the list, and then You will be asked, OK or CANCEL.
- Click the OK button to update the firmware and the system will automatically start rebooting.
- Click the CANCEL button to cancel.

▫ **By SmViewer (GUI)**

Refer to section 8-4.1 ④ Firmware Update on [page136](#).

7-2.6. SYSTEM INFO

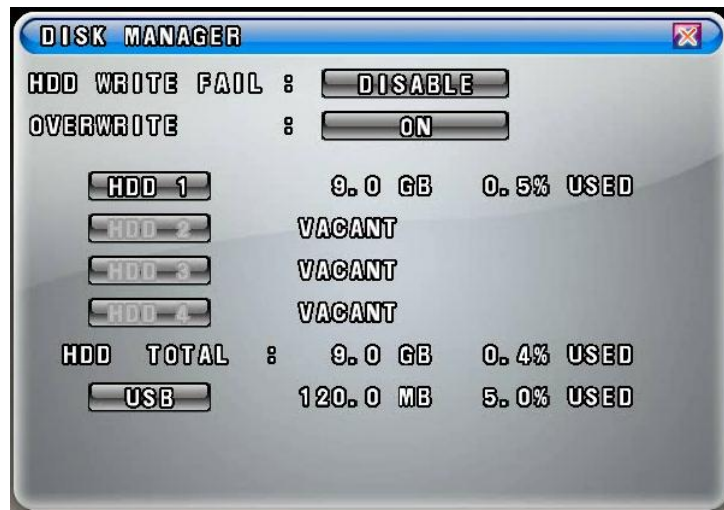
- Click the “SYSTEM INFO” button in the SYSTEM menu and then the SYSTEM INFO that contains the system version and the last updated date will be displayed.
- Click the  (EXIT) button to return to the SETUP menu.



[Fig.7-21 SYSTEM INFORMATION window]

7-3. DISK MANAGER

- Click the “DISK MANAGER” button in the SETUP menu and then the DISK MANAGER window will be displayed (See Fig.7-22).
- Click the  (EXIT) button to return to the SETUP menu.
- A DVD R/W and 3 Hard Disk Drives can be installed, and all information in regards to the drives will automatically display on the DISK MANAGER window.



[Fig. 7-22 DISK MANAGER window]

7-3.1. HDD WRITE FAIL

If HDDs are in full and the OVERWRITE is turned OFF in the recording mode, the system will activate the relay output (See section 5-4.3) for a siren or other device.

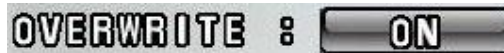
- Click the HDD WRITE FAIL button in the DISK MANAGER window and select one among RELAY 1 OUT, RELAY 2 OUT, RELAY 3 OUT, RELAY 4 OUT or DISABLE.



[Fig. 7-23 HDD Write Fail button]

7-3.2. HDD OVERWRITE

- Click the mouse on the OVERWRITE button to select the ON or the OFF. If the ON is selected, the system continues recording by overwriting start from the first index of the recorded file even though the space of HDD is in full. If the OFF is selected, the system will stop recording when the space of HDD is in full.

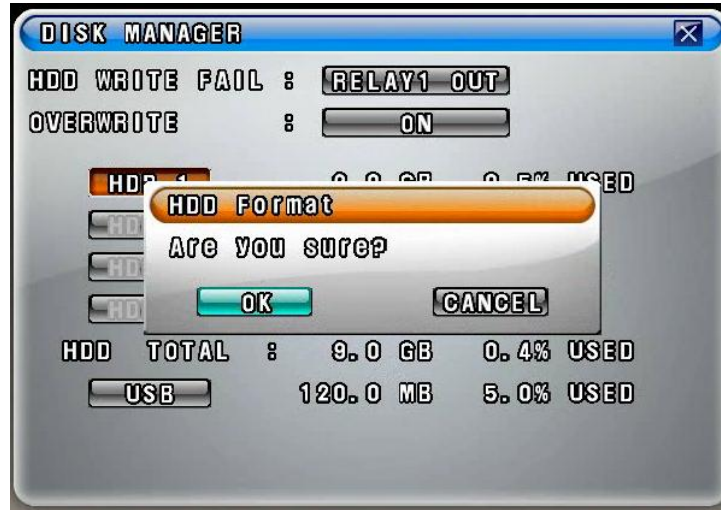


[Fig.7-24 Overwrite button]

7-3.3. Format

When you install the new Hard Disk Drives (HDD), it should be formatted before recording. Formatting is possible only when the system is in the LIVE mode.

- Click the "HDD or USB" button to format and then the HDD or USB FORMAT message box will be displayed (See Fig.7-25).
- Click the "OK" button, and you can see the formatting process of the HDD.
- Click the "CANCEL" button to return to the Disk Manager.



[Fig. 7-25 HDD FORMAT window]

7-4. CAMERA

- Click the “CAMERA” button in the SETUP menu and then the CAMERA menu will be displayed (See Fig.7-26). To change the settings in the CAMERA menu, stop recording by clicking the RECORD icon on the MENU BAR. It is possible only in the LIVE mode.
- Click the  (EXIT) button to return to the SETUP menu.



[Fig.7-26 CAMERA menu]

7-4.1. Camera ON/OFF

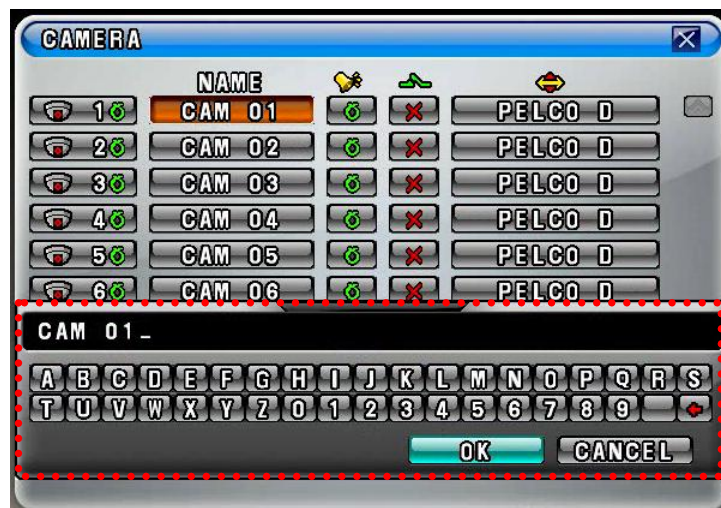
- Click on each of the channels to select the “O” or “X” in the CAMERA menu. If the “O” is selected, the corresponding video channels (CAM 01 through CAM 08) will be displayed on the screen. If the “X” is selected, the corresponding video channels (CAM 01 through CAM 08) won’t be displayed.



[Fig.7-27 Camera ON/OFF button]

7-4.2. Camera Name (Camera Title)

- Click the NAME (Camera Title) button in the CAMERA menu and then the On Screen Keyboard will be displayed as shown in Fig.7-28.
- Delete the existing NAME (Camera Title) with the  button on the On Screen Keyboard.
- Enter the new NAME up to 8 characters by using the On Screen Keyboard and click on the OK button to save. Click on the CANCEL button to cancel.
- Click the  (EXIT) button to return to the SETUP menu.

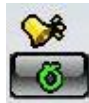


[Fig.7-28 Camera Name Setting Keyboard window]

7-4.3. Buzzer

In order to alert users, the Buzzer will sound at that time video signal lost.

- Click on each of the channels you wish to turn the buzzer “ON” or “OFF”. If the “O” is selected, the buzzer will sound when video signal lost and if the “X” is selected, the buzzer won’t sound.



[Fig.7-29 Buzzer button]

7-4.4. Relay

The system will automatically activate sirens or other devices through the Relay Outputs on the rear panel when video signal lost.

- Click on each of the channels you wish to select the Relay Outputs among “OFF”, “1”, “2”, “3” and “4”.



[Fig.7-30 Relay button]



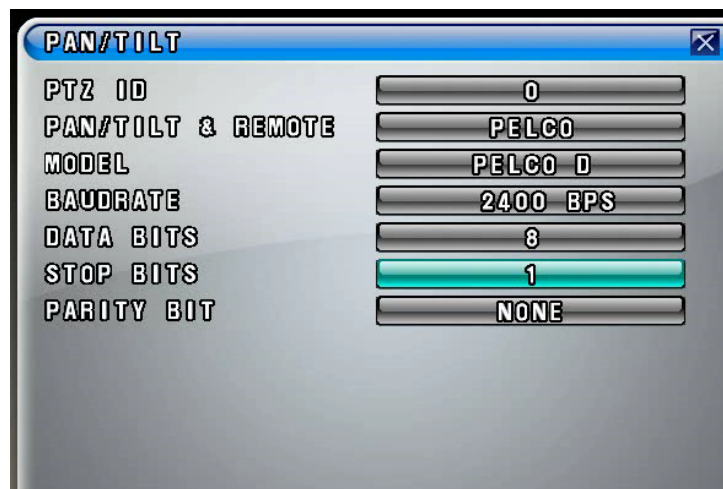
[Fig.7-31 Relay pop-up window]

7-4.5. Pan/Tilt Settings

- Click the PAN/TILT button on the corresponding channels in the CAMERA menu, then the PAN/TILT window will be displayed as shown in Fig.7-33.
- Click the  (EXIT) button to return to the CAMERA menu.



[Fig.7-32 PAN/TILT button]



[Fig.7-33 PAN/TILT window]

- PTZ ID
 - Click the PTZ ID button in the PAN/TILT window, then On Screen Keyboard will show up.
 - Delete the current ID with the  button and choose a number among "0" to "255" by using the On Screen Keyboard, and then click **OK** button to save it. The ID should be identical to one PTZ camera has.
 - Click the "**CANCEL**" button to return to the previous value.



Fig. 7-33-1 PTZ ID

▫ Pan/Tilt Vendor select

Click the “PAN/TILT & REMOTE” button in the PAN/TILT window, then the vendor lists will show up. Select a vendor on the vendor lists by clicking the mouse.



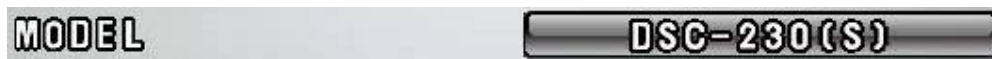
Fig.7-34 PAN/TILT & REMOTE



[Fig.7-35 PAN/TILT Vendor lists]

▫ Model

Click the “MODEL” button in the PAN/TILT window and select the model on the pop-up lists by clicking the mouse.



[Fig.7-36 MODEL button]



[Fig.7-37 PAN/TILT Model pop-up window]

▫ Baud rate

Click the “BAUD RATE” button in the PAN/TILT window and choose a value among 1200bps, 2400bps, 4800bps, 9600bps, 19200bps, 38400bps, 57600bps and 115200bps on the Baud Rate pop-up window by clicking the mouse.



[Fig.7-38 BAUDRATE button]



[Fig.7-39 Baud Rate pop-up window]

▫ Data Bits

Click the “DATA BITS” button in the PAN/TILT window and choose a value among 5, 6, 7 and 8 on the Data Bits pop-up window by clicking the mouse.



[Fig.7-40 DATA BITS button]



[Fig.7-41 Data Bits pop-up window]

▫ Stop Bits

Click the “STOP BITS” button in the PAN/TILT window and select 1 or 2 on the Stop Bits pop-up window by clicking the mouse.



[Fig.7-42 STOP BITS button]



[Fig.7-43 Stop Bits pop-up window]

▫ Parity Bit

Click the “PARITY BITS” button in the PAN/TILT window and choose a value among NONE, ODD, EVEN, STICK and ZERO on the Parity Bits pop-up window by clicking the mouse.



[Fig.7-44 PARITY BIT button]



[Fig.7-45 Parity Bit pop-up window]

7-4.6 Display

- Click the DISPLAY button in the CAMERA menu and select the ON or OFF. If the “ON” is selected, the camera name (camera title) in the LIVE mode will be displayed on the screen. If the “OFF” is selected, the camera name (camera title) in the LIVE mode won’t be displayed.



[Fig.7-46 Display ON/OFF button]

7-4.7 Sequencing dwell time

- Click the “SEQUENCING DWELL” button in the CAMERA menu and choose a value among 1, 2, 3, 4 and 5seconds on the dwell time pop-up window by clicking the mouse.



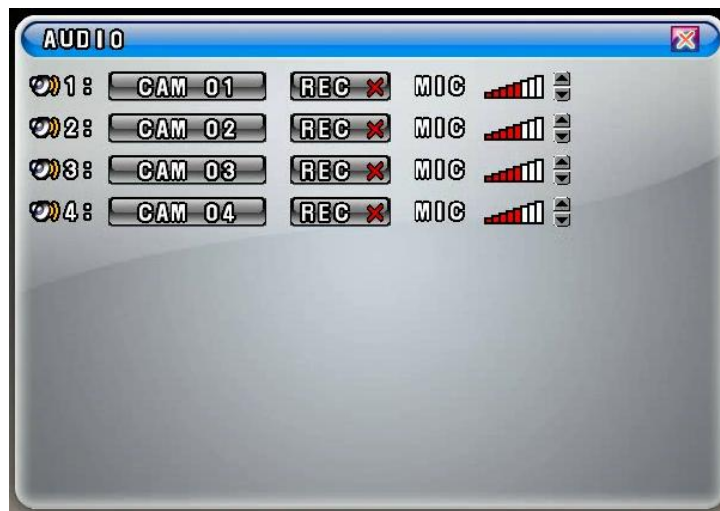
[Fig.7-47 Sequencing Dwell Time button]



[Fig.7-48 Sequencing Dwell Time pop-up window]

7-5. AUDIO

- Click on the AUDIO button in the SETUP menu and then the AUDIO menu will be displayed on the screen.
- Click the  (EXIT) button to return to the SETUP menu.



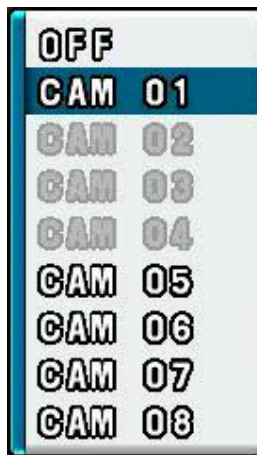
[Fig.7-49 AUDIO menu]

7-5.1. Camera Channel

- Click the Camera Channel button in the AUDIO menu and select up to 4 cameras among CAM 01 through CAM 08 which has audio function by clicking the mouse on the camera channel pop-up window.



[Fig.7-50 Camera Channel button]



[Fig.7-51 Camera Channel pop-up window]

7-5.2. Audio Recording ON/OFF

- Click the REC (audio recording) button in the AUDIO menu and select the "O" or "X" by clicking the mouse. If the "O" is selected, the corresponding channel's audio will be recording along with video signal. If the "X" is selected, the corresponding channel's audio won't be recording but video signal will be recording continuously.



[Fig.7-52 Record ON/OFF button]

7-5.3. Microphone Volume

- Adjust audio volume by clicking the ▲ or ▼ button.



[Fig.7-53 Microphone Volume control button]

7-6. RECORD

- Click the “RECORD” button in the SETUP menu and then the RECORD menu will be displayed as shown in Fig.7-54.
- Click the  (EXIT) button to return to the SETUP menu.



[Fig.7-54 RECORD menu]

7-6.1. Record ICON Display

- The Recording Icons depends on recording modes are displayed in the upper left corner of the screen.
- To turn the Recording Icon OFF, click the DISPLAY ON in the RECORD menu and then it will be turned OFF. You can select the value **ON** or **OFF** by repeatedly clicking the mouse.



[Fig.7-55 Record ICON Display button]

7-6.2. All Manual / Timer recording button

- Click the **All Manual / Timer** recording button in the RECORD menu, then the **All Manual / Timer** recording button will be displayed as shown in Fig.7-57.
- Select the Manual Recording button or Timer Recording button for all the channels by clicking the mouse in Fig.7-57.
- See section 6-8.1 through 6-8.5 [on page 53 through 56](#) for more information related to recording.



[Fig.7-56 All Manual / Timer button]



[Fig. 7-57 All Manual / Timer pop-up window]

7-6.3. All Motion ON / OFF, Sensitivity and Velocity Setting

- Click the  button in the RECORD menu, then the ALL MOTION setup pop-up window will be displayed as shown in Fig.7-59.
- By clicking the mouse, select the **ALL  ENABLE** on the pop-up window (See Fig.7-59) to enable the system to start recording by motion detection for all the channels.
- By clicking the mouse, select the **ALL  DISABLE** on the pop-up window (See Fig.7-59) to disable the system to start recording by motion detection for all the channels.
- By clicking the mouse, select the ** SENSITIVITY HIGH** on the pop-up window (See Fig.7-59) and choose one of the sensitivity among **LOW**, **1**, **2**, **3** and **HIGH** for all the channels with the mouse's wheel, and then click it to save.
- By clicking the mouse, select the ** VELOCITY HIGH** on the pop-up window (See Fig.7-59) and choose one of the velocity among **LOW**, **1**, **2**, **3** and **HIGH** with the mouse's wheel, and then click it to save.
- See section 6-8.1 through 6-8.5 on page 53 through 56 for more information related to recording.



[Fig.7-58 All Motion Setup button]



Fig.7-59 All Motion Setup pop-up window



[Fig.7-60 All Motion Sensitivity setup button]

7-6.4. All Sensors ON / OFF

- Click the  button in the RECORD menu, then the ALL SENSOR setup pop-up window will be displayed as shown in Fig.7-62.
- By clicking the mouse, select the **ALL  ENABLE** on the pop-up window (See Fig.7-62) to enable the system to start recording by Sensor (Passive Infrared Sensor) for all the channels.
- By clicking the mouse, select the **ALL  DISABLE** on the pop-up window (See Fig.7-62) to disable the system to start recording by Sensor (Passive Infrared Sensor) for all the channels.



[Fig.7-61 All Sensor Setup button]



[Fig.7-62 All Sensor Setup pop-up window]

7-6.5. Size (Recording Resolution)

Select the size of the screen for recording. The larger the size selected, the better display quality is but the larger the data becomes.

- Click the SIZE (Recording Resolution) button on each of the channels in the RECORD menu, then the SIZE (Recording Resolution) pop-up window will be displayed as shown in Fig.7-64.
- Select one of the Resolution among **D1 (720x480)**, **HALF D1 (720x240)** and **CIF (360x240)** on the pop-up window by clicking the mouse.



[Fig.7-63 Record Size button]



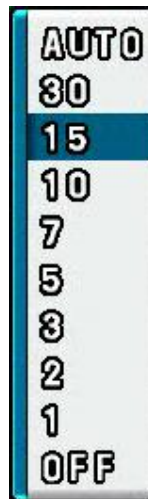
[Fig.7-64 Record Size pop-up window]

7-6.6. Recording Speed

- Click the F/S (Frames Per Seconds: Recording Speed) button on each of the channels in the RECORD menu, then the Recording Speed pop-up window will be displayed as shown in Fig.7-66.
- Select one of the Recording Speed among AUTO, 30, 15, 10, 7, 5, 3, 2, 1 and OFF on the pop-up window by clicking the mouse.
- If the AUTO is selected on all the channels, the Recording Speed on all the channels should be the same. If the OFF is selected, the corresponding channel won't be recording.



[Fig.7-65 Record Speed button]



[Fig.7-66 Record Speed pop-up window]

NTSC	30	PAL	25
	15		12
	10		8
	7		6
	5		5
	3		3
	2		2
	1		1
	OFF		OFF

[Fig.7-67 Recording Speed for each channel]

7-6.7. Recording Quality

- Click the QUALITY button on each of the channels in the RECORD menu, then the QUALITY pop-up window will be displayed as shown in Fig.7-69.
- Select one of the Recording Quality among LOW, NORMAL, HIGH and BEST on the pop-up window by clicking the mouse.



[Fig.7-68 Record Quality button]



[Fig.7-69 Record Quality pop-up window]

7-6.8. Recording Mode

The factory default setting for Recording is the Manual Recording (or called Continuous Recording), which keeps recording continuously if the OVERWRITE is set ON in the DISK MANAGE menu. This Manual Recording mode is not only one of the most popular Recording modes for users, but also one of the most convenient Recording modes to use.

Users can select one of the following Recording modes depends on their application.

7-6.8.1. Manual Recording

See section 6-8.1 on page 53.

7-6.8.2. Manual Event Recording

See section 6-8.2 on page 53.

7-6.8.3. Timer Recording (Schedule Recording)

See section 6-8.3 on page 54.

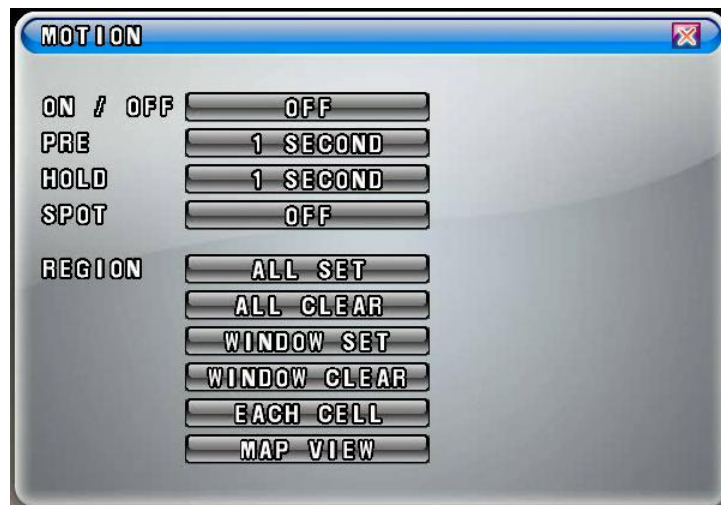
7-6.8.4. Timer Event Recording

See section 6-8.4 on page 55.

7-6.9. Recording by Motion Detection

When the menu of motion is properly set up (See section 7-6.3 for all the channels and this section for each of the channels) and detected motion of objects, the system begins recording automatically. The recording icon on the MENU bar should be selected in this recording mode. If not, it won't be recording.

- Click the mouse on the  button for each of the channels in the RECORD menu, then the MOTION menu will be displayed on the screen as shown in Fig.7-70.
- Click the  (EXIT) button to return to the RECORD menu.



[Fig.7-70 MOTION menu]

- ON/OFF

The system will start recording when MOTION is detected and the ON is selected in the MOTION menu by clicking the mouse. If the OFF is selected, the system won't be recording.



[Fig.7-71 MOTION ON/OFF button]

- Pre-Alarm Time Setup

Allows you to record a section of video just prior to Motion or Sensor activation. Click the mouse on the PRE in the MOTION menu and choose one of the values among 0, 1, 2, 3, 4 and 5 seconds with the mouse's wheel, and then click it to save.



[Fig. 7-72 Pre-Record Time setup button]



[Fig. 7-73 Pre-Alarm Time Setup pop-up window]

- Motion Hold Time Setup

The system continues recording for the MOTION HOLD TIME and finishes the recording. Click the mouse on the HOLD in the MOTION menu and choose one of the values among 1 through 30 seconds with the mouse's wheel, and then click it to save.



Fig. 7-74 Hold-Record Time Setup button]

▫ Spot Setup

If the “ON” is selected by clicking the mouse on the SPOT button in the MOTION menu, a full screen will display when a motion is detected. If the “OFF” is selected, the full screen won’t be displayed even though motion of objects is detected.



[Fig.7-75 Spot Setup button]

▫ Region

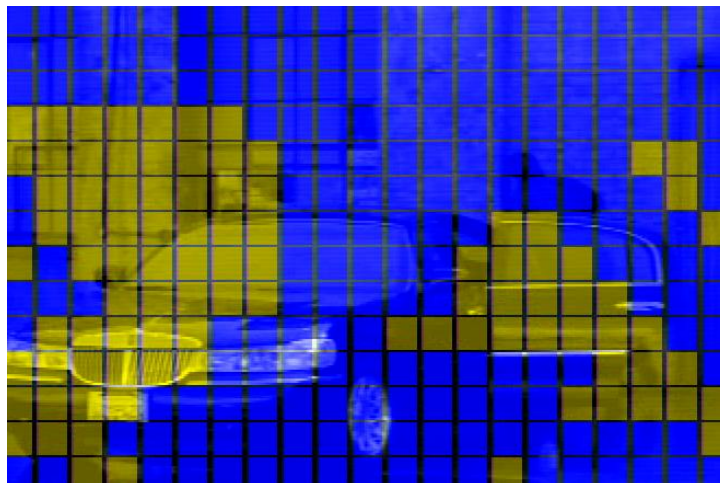
The Motion Detection Area displays in blue on the screen, and it turns to yellow color when the motion is detected. The white color on the screen represents none of detection area. There are three kinds of REGION settings as follows.

By All Set

Click the ALL SET button in the MOTION menu on each of the cameras and then the Motion Detection Area displays in blue on the screen as shown in Fig.7-77. Right-click on the blue screen to return to the MOTION menu. The factory default value is the ALL SET.



[Fig.7-76 ALL SET button]



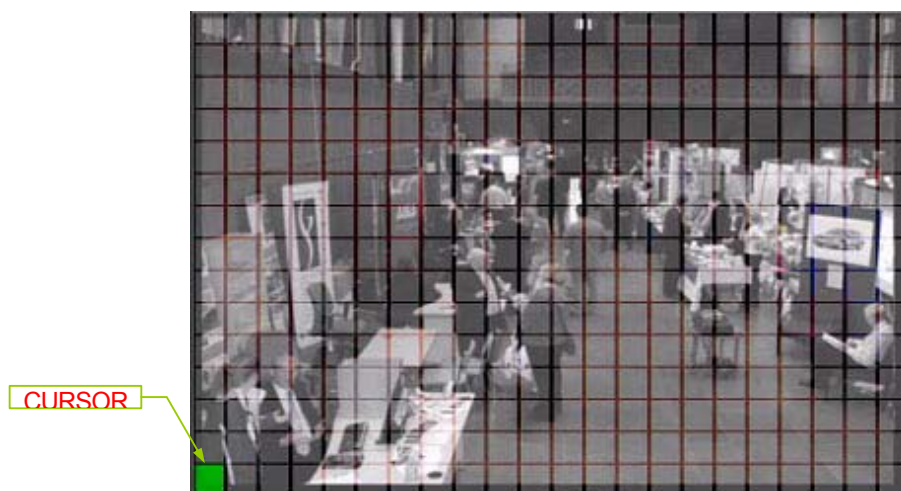
[Fig.7-77 All Set screen]

- All Clear

Click the ALL CLEAR button in the MOTION menu in order to clear the Motion Detection Area, and then the window turns to white color as shown in Fig.7-79. Right-click on the current window to return to the MOTION menu.



[Fig.7-78 ALL CLEAR button]



[Fig.7-79 All Cleared screen]

By Window Set

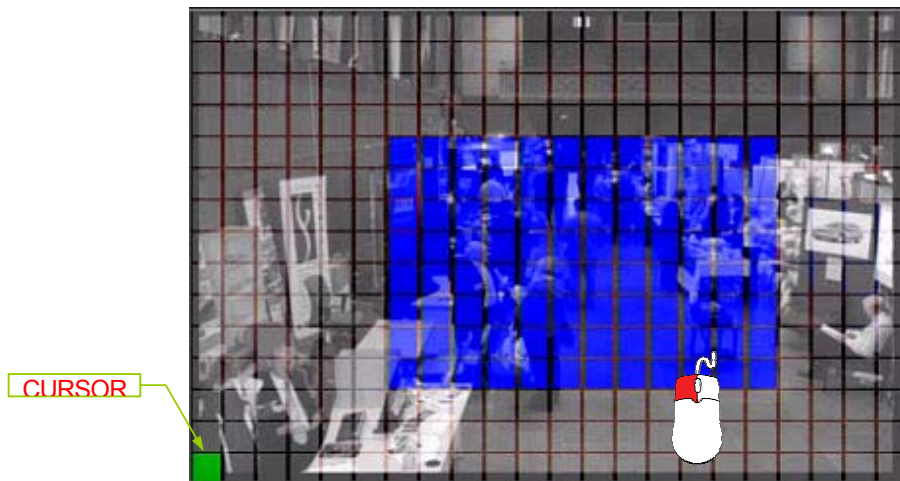
Click the WINDOW SET button in the MOTION menu on each of the cameras and click one of cells (330 cells in total) for the starting point of the area which you would like to designate, and then click the other one of cells for the ending point of area until the motion detection area is the size you want it to be. The multiple motion areas can be set on each of cameras.

The motion detection by Window Set will be made on the designated area only.

Right-click on the current window to return to the MOTION menu.



[Fig.7-80 WINDOW SET button]



[Fig.7-81 Window Set screen]

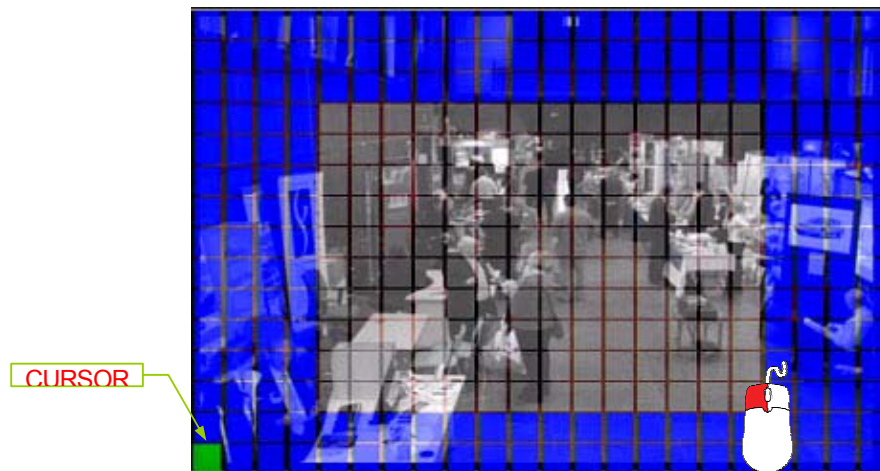
- Window Clear

Click the WINDOW CLEAR button in the MOTION menu in order to clear the Motion Detection Area, and then the motion detection area you have created will be displayed. Click the starting point and the ending point as much as you wish to clear or it can be cleared by ALL CLEAR as described above (See ALL CLEAR).

Right-click on the current window to return to the MOTION menu.



[Fig.7-82 WINDOW CLEAR button]



[Fig.7-83 Window Clear setup screen]

By Each Cell

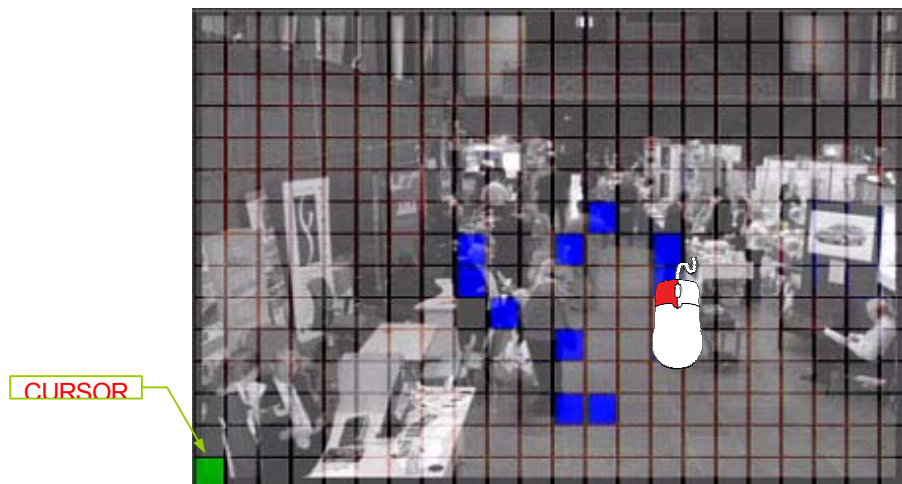
Click the EACH CELL button in the MOTION menu on each of the cameras and click the mouse on each of the cells as much as you would like to designate the Motion Detection Area.

To clear, click the designated cells.

Right-click on the current window to return to the MOTION menu.



[Fig.7-84 EACH CELL button]



[Fig.7-85 Each Cell Setup screen]

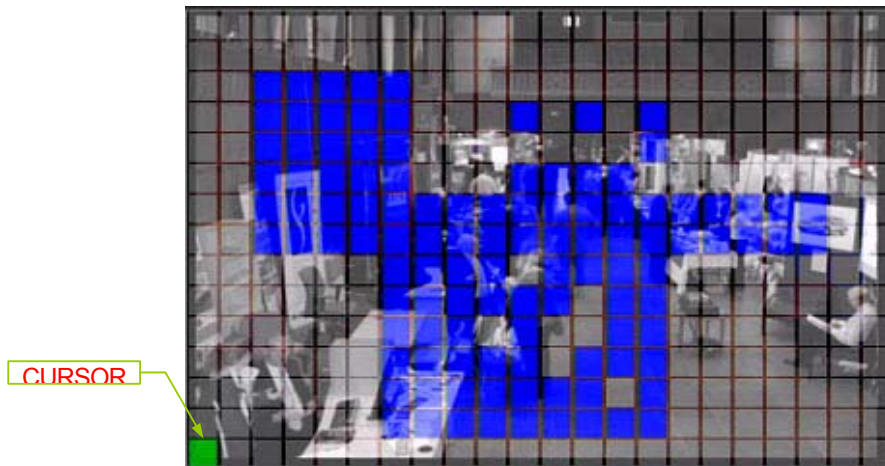
▫ Map View

Click the MAP VIEW button in the MOTION menu to view the current settings for Motion detection area.

Right-click on the current window to return to the MOTION menu.



[Fig.7-86 MAP VIEW button]



[Fig.7-87 Map View screen]



Note : Please pay attention to the following directions in order to use the Motion Detection function properly:

- Adjust the sensitivity level and motion area to fit your requirements.
- Do not use this function in an area where many objects are continuously moving. In case of this, change the recording mode to the Continuous (Manual) Recording mode.
- Use a high quality camera that does not generate video static or “noise”. The motion detection algorithm recognizes this “noise” as a motion and records the noise even if there was no actual motion.
- Do not point the camera toward a strong and changing lighting source; it can activate false motion detection.

7-6.10. Recording by Sensor (PIR Sensor)

- Click the mouse on the  button for each of the channels in the RECORD menu and then the SENSOR menu will be displayed on the screen as shown in Fig.7-88.
- Click the  (EXIT) button to return to the RECORD menu.



[Fig.7-88 SENSOR window]

- ON/OFF

The system will start recording when an Alarm is detected and the ON is selected in the SENSOR menu by clicking the mouse. If the OFF is selected, the system won't be recording.

If you select "OK", it will be recorded when only sensor is activated.



[Fig.7-89 SENSOR ON/OFF button]

▫ **Pre-Alarm Time Setup**

Allows you to record a section of video just prior to Sensor activation. Click the mouse on the PRE in the SENSOR menu and choose one of the values among 0, 1, 2, 3, 4 and 5 seconds with the mouse's wheel, and then click it to save.



[Fig. 7-90 Pre-Alarm Time Setup button]



[Fig. 7-91 Pre-Alarm Time Setup pop-up window]

▫ Alarm Hold Time Setup

The system continues recording for the Alarm HOLD TIME and finishes the recording. Click the mouse on the HOLD in the SENSOR menu and choose one of the values among 1 through 30 seconds with the mouse's wheel, and then click it to save.



[Fig.7-92 Alarm Hold Time Setup button]

▫ Spot Setup

If the "ON" is selected by clicking the mouse on the SPOT button in the SENSOR menu, a full screen will display when a motion is detected. If the "OFF" is selected, the full screen won't be displayed even though an alarm is detected.



[Fig.7-93 Spot Setup button]

7-7. NETWORK

- Click the “NETWORK” button in the SETUP menu and then the NETWORK menu will be displayed on the screen as shown in Fig.7-94.
- Click the  (EXIT) button to return to the SETUP menu.



[Fig.7-94 NETWORK menu]

7-7.1. IP Mode

When the system uses the same IP address every time it connects to the network, it is known as a static IP address. If the system's IP address changes frequently, it is called a dynamic IP address. Check with your Internet Service Provider to determine which IP address was given. This manual will guide users through the setup process for both types.

DYNAMIC IP: automatically receives IP address from the router or gateway. It doesn't need to enter the GATEWAY ADDRESS, SUBNET MASK and IP ADDRESS.

STATIC IP: requires you to enter the GATEWAY ADDRESS, SUBNET MASK and IP ADDRESS.

- Click the “IP MODE” button in the NETWORK menu and then the IP mode pop-up window will be displayed on the screen (See Fig.7-96).
- Select the STATIC or DYNAMIC by clicking the mouse depends on your networking.



[Fig.7-95 IP Mode button]



[Fig.7-96 IP Mode pop-up window]

7-7.2. GATEWAY, SUBNET, IP ADDRESS

- Click the GATEWAY / SUBNET / IP ADDRESS button in the STATIC IP MODE and then the On Screen Keyboard will appear.
- Delete the current values with the  button and enter the address numbers by using On Screen Keyboard, and then click **OK** button to set with new address.
- Click the **CANCEL** button to return to the original values.



[Fig.7-97 Address Setup window]



[Fig.7-98 On Screen Keyboard]

7-7.3. Port

- PORT is the TCP address of the program, which is used to connect to the network viewer. It can be set from 1 to 65535 values.
- Click the **PORT** button and then the On Screen Keyboard will show up.
- Delete the current port number with the  button and enter the new port number by using On Screen Keyboard, and then click “OK” button to set with new port number.
- Click the “**CANCEL**” button to return to the default value.



[Fig.7-99 Port Setup window]



[Fig.7-100 Port Setup Keyboard window]

7-7.3.1 Port Forwarding

- Router has to be set as a virtual server (or port forwarding) in order to utilize the MNS (Mac Name Server) or the DDNS service to use Internet Explorer (See section 8-3) on this product.
- Do not use the public port numbers.

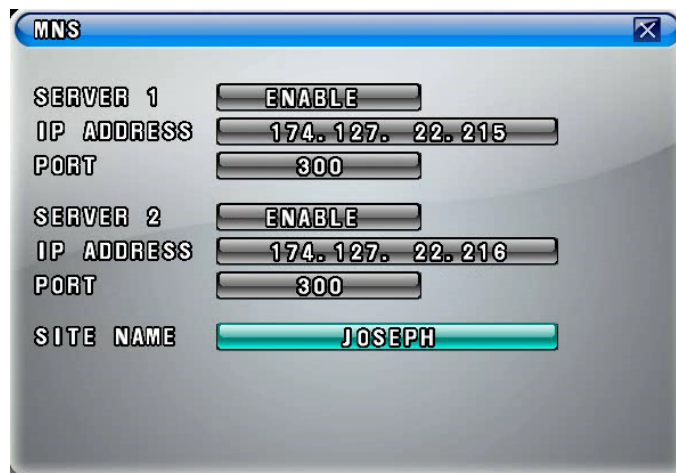
7-7.4. MAC ID

- MAC ID is connecting address for Ethernet, every unit has 12 digit addresses (HEX 6 byte).
MAC ID was already assigned with the factory default value. User can not change it.

7-7.5. MNS (MAC NAME SERVER)

As a sort of DDNS, two servers in our company (CLOVER) are being operated so that our client can access DVR with a Dynamic IP address. If one of servers stops operating, the other one will automatically start working.

- Click the **MNS** button in the **NETWORK** menu with a mouse or buttons on the remote controller and then the **MNS** window will show up as below (See Fig.7-101).
- To return to the **NETWORK** window, click the  (EXIT) button in the **MNS** menu.



[Fig.7-101 MNS window]

- **DISABLE / ENABLE**

You can select the **DISABLE** or **ENABLE** button on both SERVER 1 and SERVER 2 by clicking the mouse or pressing the **ENTER** button on the front panel or remote controller.

"DISABLE": MSN (MAC NAME SERVER) is not working.

"ENABLE": MSN (MAC NAME SERVER) is working.



[Fig.7-102 DISABLE/ENABLE button]

▫ IP ADDRESS / PORT

DO NOT CHANGE THE IP ADDRESS AND PORT NUMBER IN THE MNS MENU IF YOU DON'T HAVE ANY SPECIAL SERVER TO ACCESS YOUR DVR WITH A DYNAMIC IP ADDRESS. IF YOU CHANGE THEM, YOU CAN'T NOT ONLY USE OUR MNS (MAC NAME SERVER), BUT ALSO YOUR NETWORKING WILL BE DISCONNECTED.

▫ SITE NAME

The SITE NAME is one of the important factors to access the DVR through MNS (MAC NAME SERVER) with the SmViewer (GUI).

You can't access the DVR system if the SITE NAME you entered already exists on the network. Try to connect the system with other SITE NAME.

- Click the SITE NAME button, the On Screen Keyboard will show up (See Fig.7-104).
- Delete the current SITE NAME with the  button and enter the new SITE NAME by using the On Screen Keyboard, pressing the buttons on the front panel or remote controller and then click **OK** button to save it.
- Click the **"CANCEL"** button to return to the previous value.



[Fig.7-103 SITE NAME Setup button]



[Fig.7-104 SITE NAME Setup: On Screen Keyboard]

7-7.6. DDNS (DYNAMIC DOMAIN NAME SYSTEM)

- Select the DDNS button in the NETWORK menu by clicking the mouse, pressing the buttons on the front panel or remote controller. The DDNS menu will show up as shown in Fig.7-105.
- To return to the NETWORK menu, Click the  (EXIT) button.
- If you were in the middle of entering values on the DDNS menu, you can't exit by clicking the mouse. Choose the SERVER button in the DDNS menu by clicking the mouse and select the DISABLE, and then click the  (EXIT) button.



[Fig.7-105 DDNS menu]

- SERVER
 - Choose the SERVER button in the DDNS menu by clicking the mouse or pressing the buttons on the remote controller and select the DYNDNS.ORG (or NO-IP.ORG) provided by www.dyndns.org (or www.no-ip.org) at no cost.



[Fig.7-106 SERVER button]

- HOST NAME
 - Click the HOST NAME in the DDNS menu and type the HOST NAME registered to the DDNS server such as DYNDNS.ORG and NO-IP.ORG by using the On Screen Keyboard.

- After changing the values, click on the OK button.



[Fig.7-107 HOST NAME button]

- USER ID
 - Click the USER ID in the DDNS menu and type the USER ID registered to the DDNS server by using the On Screen Keyboard.
 - After changing the values, click on the OK button.



[Fig.7-108 USER ID button]

- PASSWORD
 - Click the PASSWORD in the DDNS menu and type the PASSWORD registered to the DDNS server by using the On Screen Keyboard.
 - After changing the values, click on the OK button.



[Fig.7-109 PASSWORD button]

7-7.7. HOW TO SETUP AND USE THE DDNS

7-7.7.1. Router.

It has to be set as a virtual server (or port forwarding) in order to utilize the DDNS. There are a lot of manufacturers on the market. Please read the provided manual thoroughly before setting or visit our website at www.cloverusa.com in regards to do it.

We, the manufacturer of DVR systems will not support the solution to your individual network issues.

** DDNS (Dynamic Domain Name System) is a method of keeping a domain name linked to a changing IP address. This is a useful feature since many computers do not use a static IP address.

7-7.7.2. Registration to the DDNS server

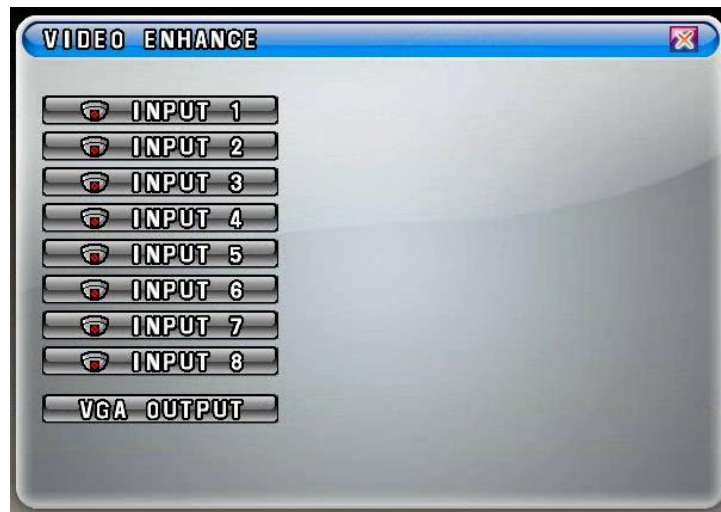
Visit at www.dyndns.org to register.

Registration to DYNDNS.ORG

1. Visit at www.dyndns.com.
2. Sign up for a new user name and a password: Click the Create Account on the upper right hand corner.
3. After signup new user, check your e-mail and confirm an e-mail from dyndns.com.
4. Go back to www.dyndns.com and log in with the ID and the Password.
5. After log in on dyndns.com front page, click on my services.
6. Click on the Add Host Service (Next to Host Level Service).
7. Click the Add Dynamic DNS Host on the Dynamic DNS.
8. The window to input Host Name will pop up, and select the dyndns.org or the dvrDNS.org on the pop-up window.
9. To complete, click the Add Host button on the bottom.
10. After registration, go to the NETWORK menu on the DVR and enter the HOST NAME, USER ID and the PASSWORD you just registered in the DDNS menu (See section 7-7.6).

7-8. VIDEO ENHANCE

- Click the **VIDEO ENHANCE** button in the **SETUP** menu to enhance the picture quality on each of channels and **VGA OUTPUT** such as Brightness, Contrast and Saturation. The **VIDEO ENHANCE** menu will show up (See Fig.7-110).
- To return to the SETUP menu, click the  (EXIT) button.



[Fig.7-110 VIDEO ENHANCE]

7-8.1. VIDEO ENHANCEMENT ON EACH CAMERA

- Click on an **INPUT** button in the **VIDEO ENHANCE** menu.
- The **CONTRAST** and **BRIGHTNESS** sliders will be displayed along with camera picture as shown in Fig.7-111.
- Adjust Contrast and Brightness with the sliders by clicking the mouse.
- To return to the VIDEO ENHANCE menu, Click the  (EXIT) button.



[Fig.7-111 CAMERA INPUT]

7-8.2. VIDEO ENHANCEMENT ON VGA OUTPUT

- Click on the **VGA OUTPUT** in the **VIDEO ENHANCE** menu.
- The **CONTRAST**, **BRIGHTNESS** and **SATURATION** sliders will be displayed along with camera picture.
- Adjust Contrast, Brightness and saturation with the sliders by clicking the mouse.
- To return to the **VIDEO ENHANCE** menu, Click the  (EXIT) button.



[Fig.7-112 VGA OUTPUT]

8

Remote Host Program

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8-1. Remote Program Overview

The Remote Host Program allows you to view live video, search archived video, control PTZ cameras and to set up the exact same menus as the DVR does.

The DVR system can have up to 10 simultaneous Remote Connections. Each user can performs on the DVR system and will not affect the other users. The only exception to this is accessing Setup. Only one user is allowed to access Setup at any time.

In order to log in to the DVR system, users should be requested to enter the password if the password is already turned **ON** in the **SYSTEM** menu (Click **SETUP – SYSTEM**). This ensures that only authorized personnel are allowed to log in.

Remote system minimum requirements

- Microsoft Windows 2000, XP or VISTA Operating System
- Pentium-4 2.0GHz or higher
- 256MB System memory
- 1024 x 768 Display Resolution, 32Bit color
- Internet or LAN Connection
- TCP/IP installed
- Microsoft DirectX 9.0c

It is recommended to have DirectX 9.0c version in client PC. DirectX 9.0 is available for download from Microsoft homepage (www.microsoft.com/windows/directx).

8-2. Installing the Program to PC

Install the program into PC by using program CD (supplied) as follows.

How to install the program

1. Start the operating system (Windows 2000/XP/VISTA).
2. Insert the program CD into CD-ROM drive.
3. Open **My Computer**, and then select CD-ROM drive.
4. Double click **Setup.EXE**. The software installation will begin.
5. After the installation has been completed, the **SmViewer** icon will be created on your desktop screen as shown below.
7. Double click the **SmViewer** icon and the **SmViewer** screen appears.



[Fig.8-1 SmViewer icon]

How to set Screen Resolution and Color Quality

1. Click **Start**, point to **Control Panel** and then click on it.
2. Double-click **Display** icon.
3. In **Display Properties** Window, select **Settings**.
4. Set **Colors as True color (32 bit)** and **Screen area as 1024 by 768 pixels**.

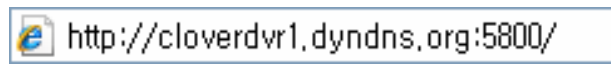
8-3. Internet Explorer

When you are trying to use this function, it is highly recommended that the password should be turned **ON** in the SYSTEM menu not to enable unauthorized personnel to access your DVR system (See section 7-2.3).

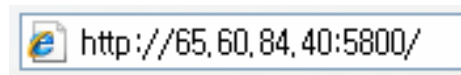
Up to 10 users can remotely access your DVR with the HOST NAME.

How to setup the Internet Explorer

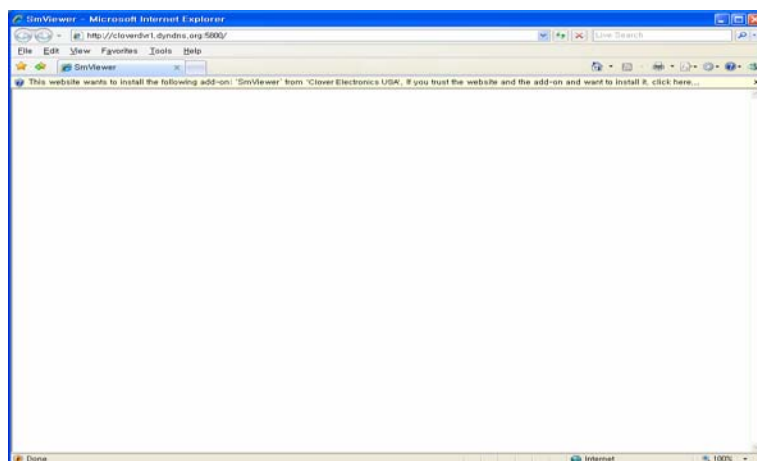
- Registration to the www.dyndns.org (See section 7-7.7.2. on page 124).
- In the IP address box of Microsoft Internet Explorer, type the HOST NAME (See Fig.8-2) you entered in the DDNS menu and the PORT NUMBER of the DVR, and then you will be asked to install the ActiveX control software (See Fig.8-3). **You should type the protocol (http://), the host name (example: cloverdvr1.dyndns.org) or the static IP address (See Fig.8-2-1) and the port number (:5800) in the IP Address box.**



[Fig.8-2 Host Name]



[Fig.8-2-1 IP & Port]



[Fig.8-3 SmViewer- Windows Internet Explorer]

- Click on the following message.
This site wants to install the following add-on: 'SmViewer' from 'Clover Electronics USA'.
If you trust the website and the add-on and want to install it, **click here**....
- Click the **click install ActiveX Control**.... on the pop-up screen and the following window will be displayed.



[Fig.8-4 Install the SmViewer]

- Click the **Install** button on the above window (See Fig.8-4) and the **SmViewer** will be shown. Refer to the following pages in regards to the **SmViewer**.

8-4. Remote Host

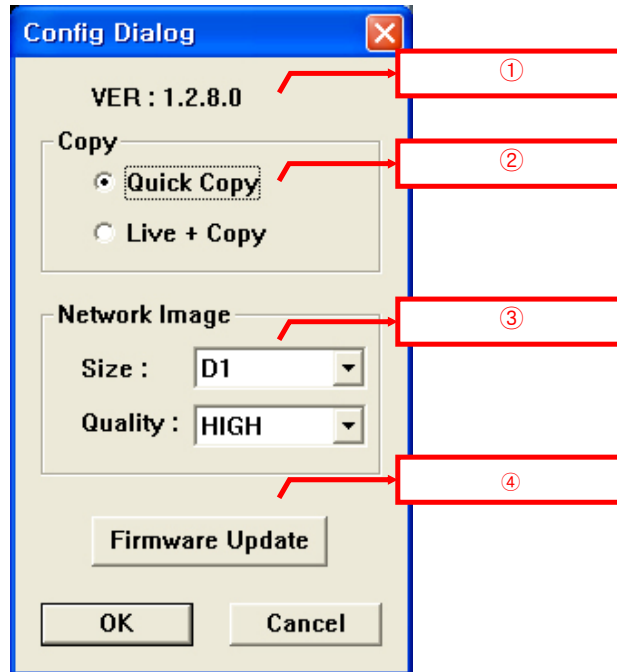


[Fig.8-5 SmViewer]

Buttons of Remote Host Program

- ① Player button
- ② Connection button
- ③ Setup (Config) button
- ④ Full Screen button
- ⑤ Speaker / Microphone volume control
- ⑥ EXIT button

8-4.1. Setup



[Fig.8-6 HOST CONFIG window]

① Version number

It represents the current version number of the Firmware.

② Copy

Refer to Section 8-4.5 in regards to copying methods after selecting one between the Quick Copy and the Live + Copy.

▫ Quick Copy

Click on the Quick Copy for faster copying the recorded data from the DVR to the Host Program (SmViewer) without live images. The copying speed of the Quick Copy is faster than the Live + Copy.

▫ Live + Copy

Click on the Live + Copy for copying the recorded data from the DVR to the Host Program (SmViewer) with live images. The copying speed of the Live + Copy is lower than the Live + Copy.

③ Network Image

▫ Size

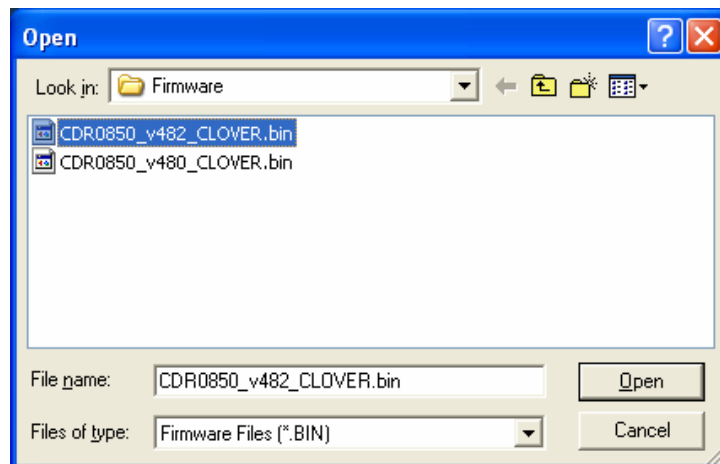
Choose a Size (Resolution) among D1, Half D1 and CIF you wish to display on the SmViewer by clicking the mouse. This setting does not affect the DVR.

▫ Quality

Choose one among LOW, NORMAL, HIGH and BEST you wish to display on the SmViewer by clicking the mouse. This setting does not affect the DVR.

④ Firmware Update

- Save the latest Firmware to the System Files (Open Windows Explorer – click My Computer - click the Program Files – click StandAlone MPEG4 DVR – click System Files).
- Click the Firmware Update button on the Fig.8-6, and then you will be asked “Do you want to update a firmware?”
- Click the Yes to update.
- Double click the latest firmware as shown in Fig.8-7 and then you will be asked “Shall I update firmware?”
- Click the OK to update. The DVR will display the “Firmware Updating.....” along with the progressive bar on the screen and it will automatically reboot.

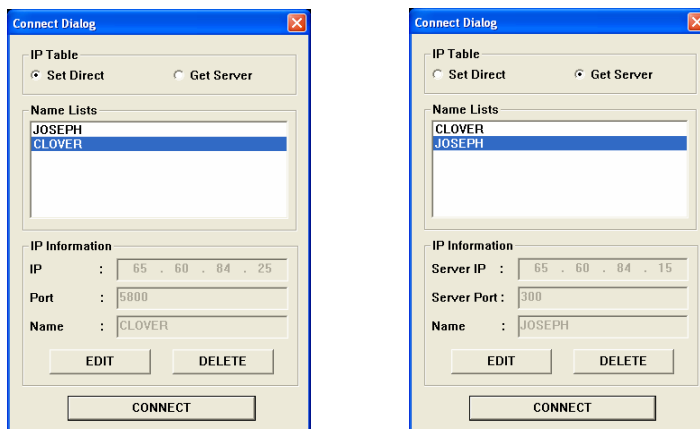


[Fig.8-7 Firmware Files]

8-4.2. Connection

There are two ways to access the DVR through the **SmViewer** as follows.

- With **Set Direct** setting
 - Click the “CONNECT” button on the SmViewer and then the “Connect Dialog menu” as shown in Fig. 8-8 will be displayed.
 - Click the “Set Direct” in the Connect Dialog menu and click the “EDIT” button.
 - Enter the IP address (or WAN IP address of the Router) and Port number, which must be the same as DVR has.
 - Click the “EDIT” button again and then the connection list will be created in the Name List (up to 20 lists).
 - Choose a Site Name in the Name Lists and click the “CONNECT” button in order to access the DVR.
- With **Get Server** setting
 - Click the “CONNECT” button on the SmViewer and then the “Connect Dialog menu” as shown in Fig. 8-8 will be displayed.
 - Click the “Get Server” in the Connect Dialog menu and click the “EDIT” button.
 - Enter the IP address, Port number and Site Name, which must be the same as the MNS has (**SETUP-click NETWORK-click MNS in the NETWORK menu: Refer to section 7-7.5 MNS on page 120**).
 - Click the “EDIT” button again and then the connection list will be created in the Name Lists (up to 20 lists).
 - Choose a Site Name in the Name Lists and click the “CONNECT” button in order to access the DVR.



[Fig.8-8 Connect Dialog]

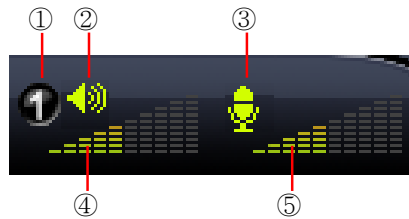
8-4.3. Switch the Normal Screen to Full Screen

- Click the “FULL SCREEN” button on the SmViewer and then the current screen size will be enlarged to fit the monitor’s screen size, but the resolution will be lowered.
- Click the “FULL SCREEN” button again to go back to the NORMAL SCREEN.



[Fig.8-9 Switch the Normal Screen to Full Screen]

8-4.4. Speaker / Microphone



[Fig.8-10 Speaker / Microphone]

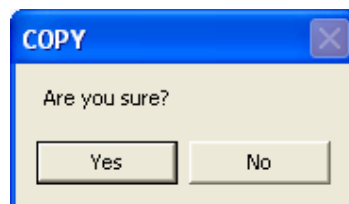
Buttons of Remote Host Program

- ① Audio Input channel selection: Select the same audio channel as the DVR has.
 - ② PC Speaker ON/OFF: Turn the Speaker ON or OFF by clicking the mouse.
 - ③ PC Microphone ON/OFF: Turn the Microphone ON or OFF by clicking the mouse.
 - ④ PC Speaker Volume Control: Adjust the Speaker Volume by clicking the amount of audio volume. It is available when the Speaker is turned ON.
 - ⑤ Microphone Volume Control: Adjust the Microphone Volume by clicking the amount of audio volume. It is available when the Microphone is turned ON.
-

8-4.5. Copy

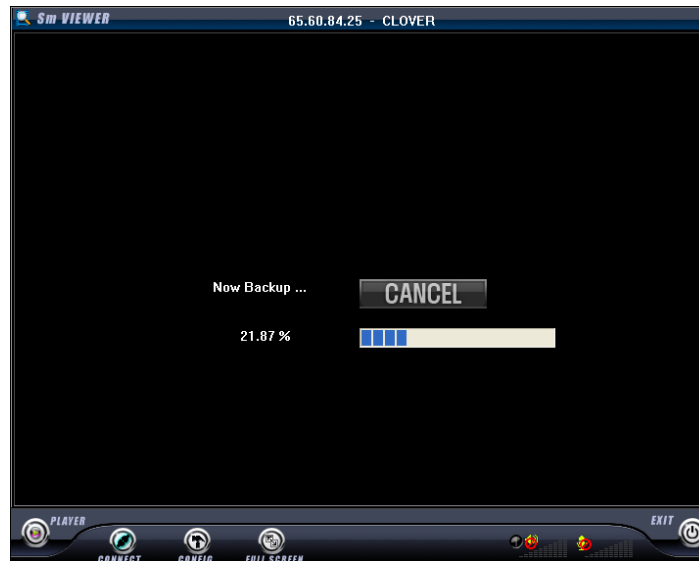
There are four icons such as NETWORK, USB, CD and DVD in the COPY menu of the SmViewer. The recorded data will be saved in the Backup Files (Open Windows Explorer – click My Computer - click the Program Files – click StandAlone MPEG4 DVR – click Backup Files) through the NETWORK, but the other icons such as USB, CD and DVD will only show what the DVR functions on these icons. Therefore it is impossible to copy the recorded data to client computer with these icons.

- Click the COPY button on the menu bar and the COPY menu will be displayed on the screen.
- In order to set the Copy starting time and the Copy ending time, select the values (year/month/date and hour/minute/second) by clicking the mouse, change the values with the mouse's wheel and click the mouse again on the changed values to complete.
- Click the mouse on the  icon only when the network is connected and you will be asked as shown in Fig.8-11.
- Click the Yes to copy and the SmViewer will show the progressive status to copy (See Fig.8-12).
- Click the OK to complete the copy (See Fig.8-13).



[Fig.8-11 Copy Confirmation]

8. Remote Host Program

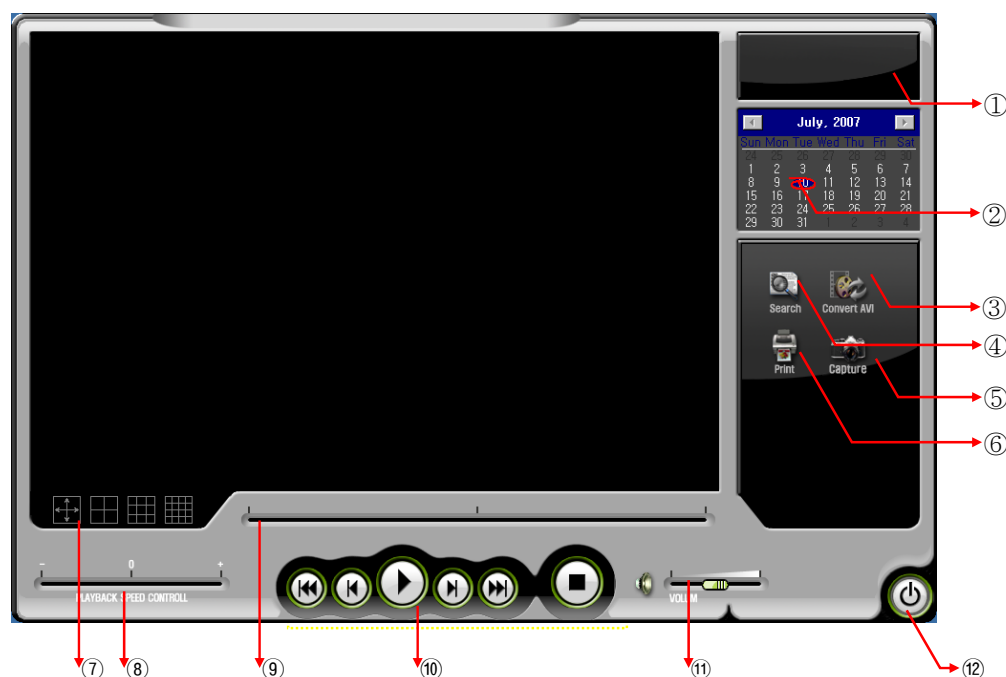


[Fig.8-12 Copying on the SmViwer]



[Fig.8-13 Copy Completion]

8-5. PLAYER



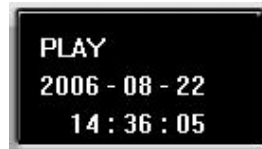
[Fig.8-14 Player]

Chart. Button of Player Program

- ① Status window (Play mode, Date, Time)
- ② Calendar
- ③ Convert to AVI File
- ④ Search button for replaying
- ⑤ Capture button
- ⑥ Print button
- ⑦ Division button
- ⑧ Playback (Replay) speed Control
- ⑨ Search slider for replaying
- ⑩ Replay Control
- ⑪ Volume Control
- ⑫ Exit program button

① Status window (Play mode, Date, Time)

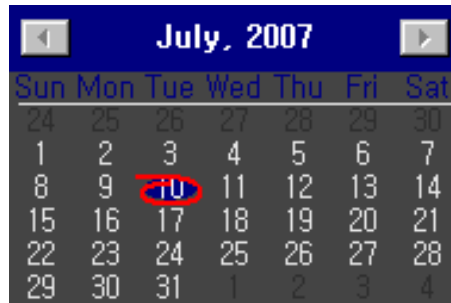
It indicates the play mode, date and time.



[Fig.8-15 Status window]

② Calendar

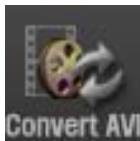
It shows the date currently being replayed.



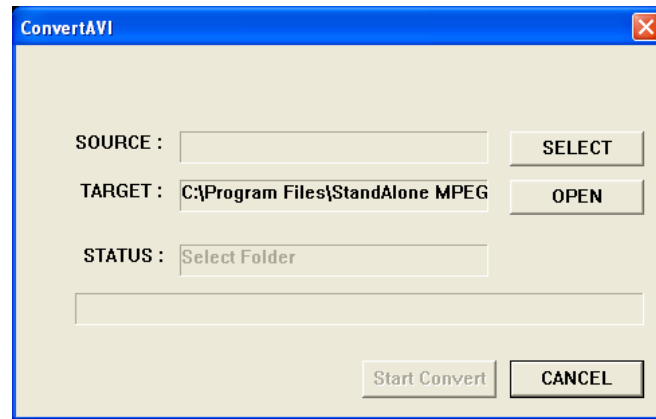
[Fig.8-16 Calendar]

③ Convert AVI File

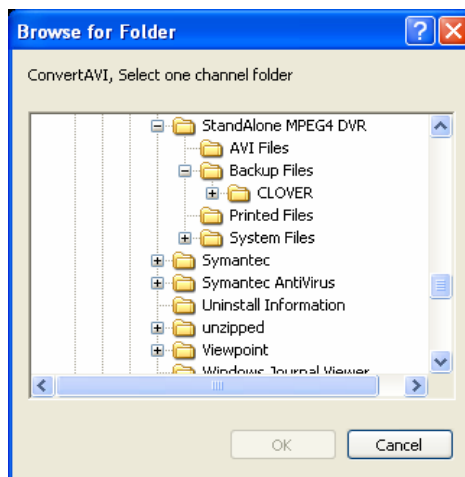
Convert the recorded files to AVI files.



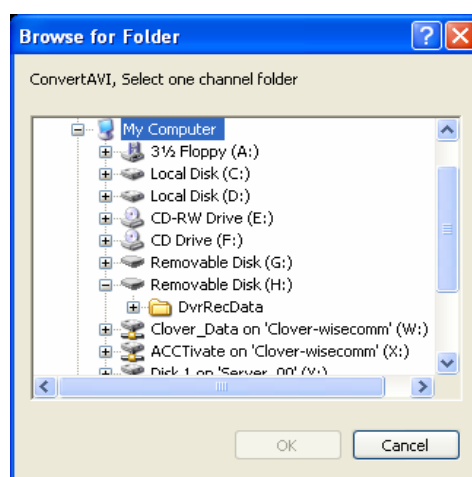
- Click the Convert AVI button on the Player and the Convert AVI window will be displayed (See Fig.8-17).
- Click on the SELECT button on the Convert AVI window and the Browse for Folder will be displayed (See Fig.8-18 and Fig.8-19).
- Select the folder that contains the recorded data and select one of the channels by clicking the mouse and click the OK (See Fig.8-20).
- Click the Start Convert button on the Convert AVI window and click the CLOSE button after verifying the status "Complete" (See Fig.8-21).



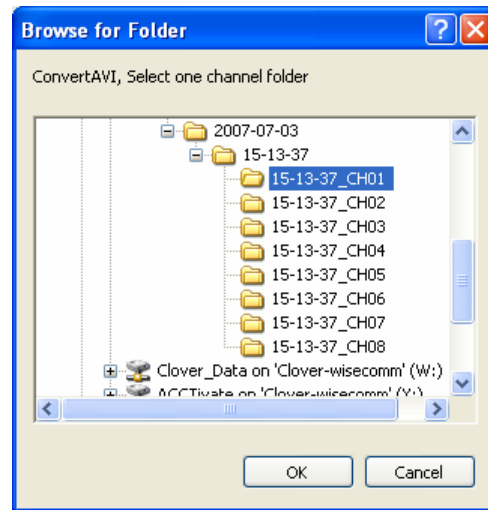
[Fig.8-17 Convert AVI window]



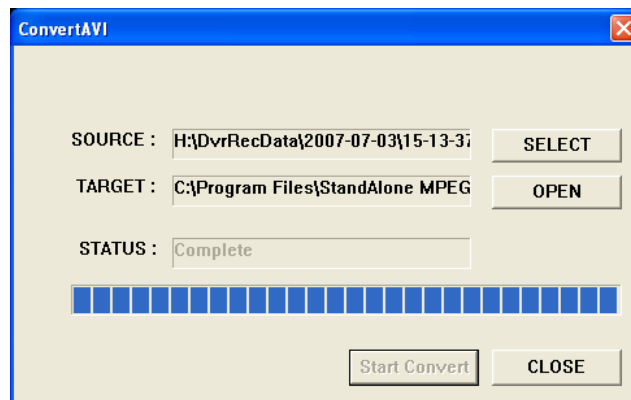
[Fig.8-18 Backup Files by Networking]



[Fig.8-19 DvrRecData by USB]



[Fig.8-20 Select one of the Channels]



[Fig.8-21 Start Convert Button]

How to play the AVI files

By using Windows media player:

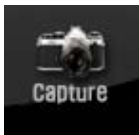
- Click the OPEN button on the Convert AVI window and double click one of the AVI files to play. The AVI files will save in the AVI Files folder (Open Windows Explorer – click My Computer – click the Program Files – click StandAlone MPEG4 DVR – double click one of the AVI Files).

④ Search button for Replaying



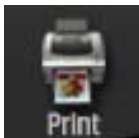
- Click the Search button on the Player and the Browse for Folder will be displayed.
- Select the folder that contains the recorded data and click the OK button on the Browser for Folder. One channel or all the channels can be replayed depends on the selection.

⑤ Capture button



- Click the Capture button when a full screen is replaying on the Player and the current images will be saved in the Printed Files (Open Windows Explorer – click My Computer - click the Program Files – click StandAlone MPEG4 DVR – click Printed Files) in JPEG file format.

⑥ Print button



- Click the Print button when a full screen is replaying on the Player and the current images will print out along with comments if you write down some comments in the Print Comment Dialog as shown in Fig.8-22.
- Click the OK button in the Print Comment Dialog regardless of the comments to print.

8. Remote Host Program



[Fig.8-22 Print command window]



[Fig.8-23 Print image]

⑦ Division button



Select one of the following divisions while replaying.



Full Screen



4 Division Screen



9 Division Screen



16 Division Screen

[Fig.8-24 Division button]

⑧ Playback (Replay) Speed Control

Move the slider with the mouse to control the replaying speed.

The "0" represents the normal speed, "-" and "+" represents slow speed and fast speed respectively.



[Fig. 8-25 Replay Speed Control Slider]

⑨ Search slider for replaying

The slider can be moved left and right by clicking the slider on the bar and dragging it or just click the bar to search the recorded data.



[Fig.8-26 Replay Search Slider]

⑩ Replay Control

Refer to section 6-9.2.3.



[Fig.8-27 Replay Control buttons]

⑪ Volume Control.

Control the volume when replaying in the full screen mode



[Fig.8-28 Replay Volume Control Slider]

⑫ Exit button

Click the Exit button on the Player to exit.



9

Installation of additional HDDs

Review 할것

CONTENTS

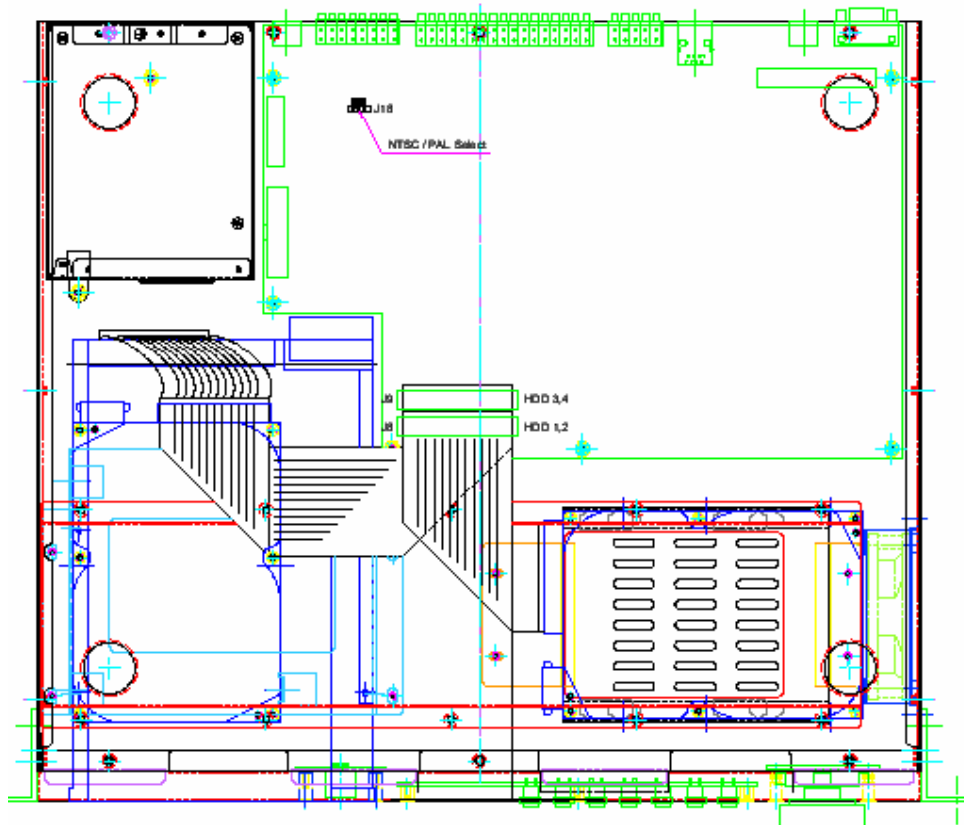
9-1. HDD (HARD DISK DRIVE) INSTALLATION	150
9-2. INSTALLATION OF AN ADDITIONAL HDD	151

9-1. HDD (Hard Disk Drive) INSTALLATION

- ▶ Three of internal Hard Disk Drives (HDD) and a CD R/W or DVD R/W can be installed in the system. DVR manufacturer already installed a 320GB of Hard Disk Drive (IDE) and a DVD R/W. To install additional hard disk drives, refer to the following pages.



Note : Jumper settings for all the Hard Disk Drives and the DVD R/W should be made on “Cable Select”. Do not set the jumper settings as Master or Slave on any of IDE Drives, the system won’t be working properly



[Fig 9-1 System in]

9-2. Installation of an additional HDD

- ▶ Set the jumper setting to “**Cable Select**” position on the additional HDD.



Note : Be sure that the jumper setting is correct. If not, the system will not recognize the additional HDD.

- ▶ Turn off the power. Unscrew and remove the cover.
- ▶ Install the additional HDD in the space as shown in Fig.9-1.
- ▶ Connect the power connector and the flat cable to the HDD.
- ▶ Reassemble the cover.
- ▶ Turn on the system and confirm that the system recognizes the additional HDD. If the system fails to recognize the HDD, check the correct jumper settings and secure cable connections.



Note : After installing the additional HDD, formatting on the new drive should be performed. Refer to section 7-3.3. for more details.

APPENDIX

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Recording time table

HDD: 300GB

Recording Resolution: Half D1 (720 x 240)

Based on 8 cameras

HOURS

Each (Total)	15 fps (120fps)	10 fps (80fps)	7 fps (56fps)	5 fps (40fps)	3 fps (24fps)	2 fps (16fps)	1 fps (8fps)
BEST	69.00	104.00	149.00	208.00	347.00	521.00	1041.00
HIGH	232.00	348.00	497.00	696.00	1160.00	1741.00	3481.00
NORMAL	541.00	812.00	1160.00	1624.00	2706.00	4059.00	8119.00
LOW	1098.00	1647.00	2353.00	3294.00	5491.00	8236.00	16472.00

DAYS

Each (Total)	15 fps (120fps)	10 fps (80fps)	7 fps (56fps)	5 fps (40fps)	3 fps (24fps)	2 fps (16fps)	1 fps (8fps)
BEST	2.90	4.30	6.20	8.70	14.50	21.70	43.40
HIGH	9.70	14.500	20.70	29.000	48.30	72.50	145.00
NORMAL	22.60	33.80	48.30	67.70	112.80	169.10	338.30
LOW	45.80	68.60	98.00	137.30	228.80	343.20	686.30

Factory default settings

(1) LIVE SCREEN

8 SPLIT
OSD ON

(2) TIME / DATE

DISPLAY : ON
TIME FORMAT : 24 HOUR
DATE FORMAT : YYYY/MM/DD

(3) LOAD / BACKUP CONFIG

NONE LISTS

(4) USER ACCOUNT

PASSWORD : SET YOUR PASSWORD (THE PASSWORD IS NULL)
PASSWORD ON/OFF : OFF

(5) IR REMOTE ID

OFF

(6) HDD OVERWRITE

ON

(7) CAMERA

ACTIVE : ALL ON
NAME : CAM XX
BUZZER : ALL ON
RELAY : ALL OFF
PAN/TILT VENDOR : PELCO
DISPLAY : ON
SEQ DISPLAY DWELL : 1 SEC

(8) AUDIO

AUDIO 1 : RELATED CAMERA CH 1, RECORD OFF, MIC 5

AUDIO 2 : RELATED CAMERA CH 2, RECORD OFF, MIC 5

AUDIO 3 : RELATED CAMERA CH 3, RECORD OFF, MIC 5

AUDIO 4 : RELATED CAMERA CH 4, RECORD OFF, MIC 5

(9) RECORD

RECORD ICON DISPLAY : ON

SIZE : ALL HALF D1 (704 X 240)

FPS : ALL 15 fps

QUALITY : ALL HIGH

MODE : ALL MANUAL RECORD MODE

SENSITIVITY : LOW (19)

- TIMER RECORD

ACTIVE : ALL OFF

TIMER : ALL 00 : 00

- MOTION

DETECT : OFF

PRE : 1 sec.

HOLD : 1 sec.

SPOT : OFF

REGION : ALL SET

- SENSOR

DETECT : OFF

PRE : 1 sec.

HOLD : 1 sec.

SPOT : OFF

(10) NETWORK

TYPE : DYNAMIC

PORT : 113

SERVER 1 MODE : DISABLE

SERVER 1 IP ADDRESS : 65.60.84.25

SERVER 1 PORT : 300

SERVER 2 MODE : DISABLE

SERVER 2 IP ADDRESS : 221.149.149.117

SERVER 2 PORT : 300

SERVER SITE NAME : SXXXXXX (MAC ADDRESS)

(11) VIDEO

- CAMERA INPUT

BRIGHTNESS : 128 (Max. 255)

CONTRAST : 128 (Max. 255)

- VGA OUTPUT

BRIGHTNESS : 20 (Max. 40)

CONTRAST : 20 (Max. 40)

SATURATION : 20 (Max. 40)

FAQ

CONTENTS

I CANNOT LOGIN 160

I cannot login

- ▶ Please check if the link LED of DVR and LAN port of PC are lit.

- ▶ Please check if the IP address on DVR and the PC is identical.

Check SYSTEM STATUS by pressing STATUS button of DVR

(Available on LIVE mode and RECORD mode.)

MY IP : xxx.xxx.xxx.xxx

Check Target IP Address by clicking CONF button of PC host program.

TARGET IP ADDRESS : xxx.xxx.xxx.xxx

- ▶ Please check whether there is a response upon PING test with DVR IP.

Type "PING -t xxx.xxx.xxx.xxx" in DOS COMMAND window and execute.

(xxx.xxx.xxx.xxx is the DVR IP)

Request timed out → Check IP address

Reply from : xxx.xxx.xxx.xxx : Check Port number. Check if other user is using this.

- ▶ Please check the Port number of DVR and PC is identical.

Check Port number at MENU-SETUP → SYSTEM → NETWORK IP CONFIG.

PORT : 5800 (on DVR)

TARGET PORT NUMBER : 5800 (on Host Program)

- ▶ Please confirm the Password of DVR and PC is identical.

Check Password at MENU → SETUP → SYSTEM → PASSWORD

- ▶ Please check whether DVR is connected another PC.

Check SYSTEM STATUS by pressing STATUS button.

FROM : xxx.xxx.xxx.xxx : IP which is presently connected.

MY IP : xxx.xxx.xxx.xxx : DVR is waiting for connection.

- ▶ Please check whether firewall is installed in the network.

Ask the network administrator to reconfigure the firewall.

Limited 2Year Warranty

This warranty gives the original purchaser specific legal rights and you may also have other rights, which may vary from state to state. If our products do not function because of any defect in material or workmanship, we will repair it for free for 2 year on parts and labor from the date of original purchase. This warranty does not cover modification, abuse, incidental or consequential damages unless the state of owner's residence specially prohibits limitations on incidental or consequential damages.

How to obtain Factory Service

- Original purchaser must fill out the warranty card and mail it to the factory with the model number, serial number and the date of purchase.
- We will repair or replace, and return the system to the owner under this limited warranty.
- Please pack the system carefully and securely using the original packing materials, and send it prepaid and insured to: **13073 E. 166th St, Cerritos, CA 90703.**

Please include a check for \$40.00 to cover the cost of return postage and handling. If the system is returned within the warranty period, please include a proof of purchase. If the system is out of warranty, you will receive an estimate of the repair cost for your approval before repair work will be started.

**INSTRUCTION
MANUAL**

**3D-DNR
TRUE DAY/NIGHT IR CAMERA**

MODEL HDC150



CLOVER
Electronics USA

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PRECAUTIONS

- To avoid electrical shock, do not open the case of this product.
- Operate this product using only the supplied AC Power supply.
- Do not overload electrical outlets or extension cords; this can result in fire or electric shock.
- Keep this product away from strong magnetic fields.
- Do not expose this product in direct sunlight or strong reflected rays.
- Refer servicing to qualified personnel only.
- Do not change or modify this product, the warranty will be voided.

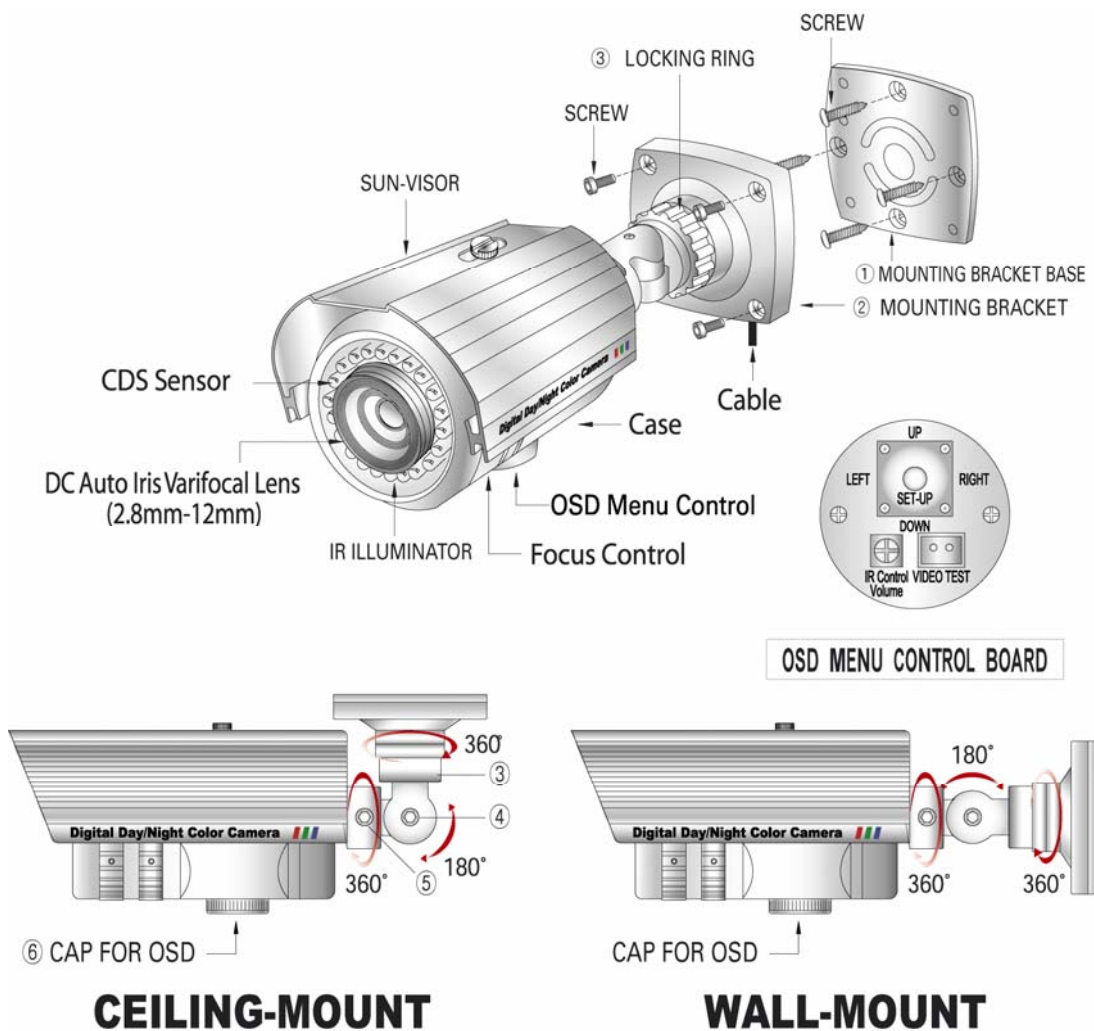
FEATURES

- Weatherproof (IP67)
- 1/3" Sony Super HAD CCD
- High Resolution 550 TV Lines (Color), 600 TV Lines (B/W)
- Rugged Steel Construction
- On Screen Display (OSD)
- True Day/Night (Built-in ICR: IR Cut Filter Removal)
- 3D DNR (Digital Noise Reduction) with 3D filter
- D-WDR (Digital Wide Dynamic Range)
- Total 42 Infrared LEDs with a CDS sensor
- Up to 130' IR range (depends on scene reflection)
- DC Auto Iris Vari-focal Lens (2.8-12mm)
- Attached Universal Mounting Bracket and 100' cable
- Dual Voltage(AC 24V/DC 12V)

INSTALLATION

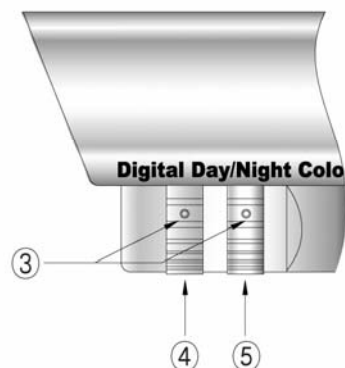
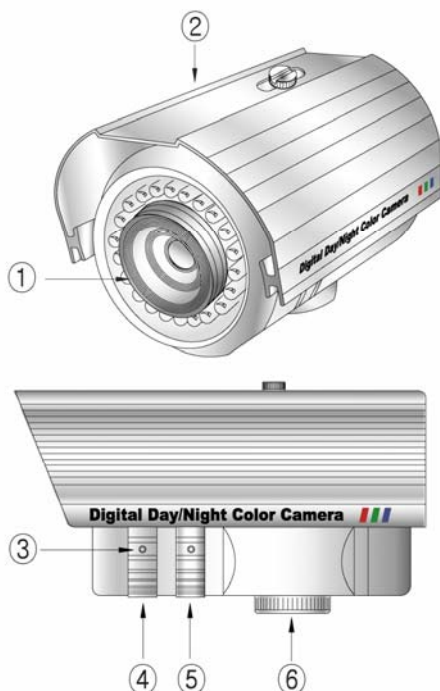
1. Attach the mounting bracket base① to the wall or ceiling, wherever you want to install the camera. Locate a wall stud or ceiling joist and secure the bracket base① using the supplied screws. Attach the mounting bracket② to the base① and secure them using the supplied screws.
2. Lock the mounting bracket with the locking ring③.
3. Turn the pivot locking screw④ with the provided hex-head wrench counter-clockwise to set the desired angle of camera toward objects and turn it clockwise to secure. It can be used for wall-mount or ceiling-mount application depending on setting this pivot locking screw.
4. Loosen the locking screw⑤ with the provided hex-head wrench and turn the camera clockwise or counter-clockwise to upright images on the screen and turn it clockwise to secure.

5. If necessary, change the settings to get the best images depending on your application by using the button on the bottom of the camera.
 - Get rid of the cap⑥ for the OSD button by turning counter-clockwise and then change the settings (refer to the included instruction manual for OSD Control).
 - Turn the cap⑥ clockwise to secure after changing the settings.
6. Connect the one end of 100' cable (supplied) to the BNC (F) of 5' cable attached to the camera and the other end (BNC) of cable to the video devices such as DVR, monitor/TV. Plug the provided AC power supply to the DC jack (red) on the end of 100' cable.



HOW TO ADJUST ANGLE OF VIEW

1. Vari-focal lens①
Easily changeable angle of view: 2.8 to 12mm
2. Remove the sun-visor② and turn the locking screws on the knobs③ with the provided hex-head wrench counter-clockwise to make easier adjustment for angle of view. Do not stamp your fingerprint on the lens and the window, which may affect picture quality.
3. T↔W (Tele ↔ Wide)⑤
Turn this adjustment ring⑤ clockwise or counter-clockwise to set the focal length.
4. ∞↔N④
Turn this adjustment ring④ clockwise or counter-clockwise to set the focus.
5. After setting the focus and focal length, the locking screws on the knobs③ should be securely fastened.



Note:

- **Apply the provided AC Power supply only.**
- **The total length of cable must not exceed 200' including extension cable.**

TROUBLE SHOOTING

If the camera does not function properly, check the following points before contacting the service center.

Troubles	Remedies
No video	Check the AC adapter and video cable between the camera and a monitor
The image on the screen is dark	Check the brightness control on the monitor
The image on the screen is dim	Check if the lens is stained. If dirty, clean it with soft and clean cloth
The camera is not working properly, and the surface of the camera case is hot	Check if you have connected the provided AC adapter
The contrast on the screen is too weak	Adjust the contrast feature of the monitor. If the camera is exposed under too strong light, change the position
The image on the screen flickers	Does the camera face to directly to the sunlight or fluorescent light? Change the camera position
Picture rolls and jumps, scrambled picture	Improper V-hold control. Setting on your monitor
Picture smaller than screen	House current may be too low

SPECIFICATIONS

- | | |
|--------------------|-------------------------|
| • Image sensor | 1/3" SONY Super HAD CCD |
| • Total pixels | 811(H) x 508(V) |
| • Effective Pixels | 768(H) x 494(V) |
| • Scanning system | 2:1 Interlace |
| • Synchronization | Internal/Line Lock |
| • O.S.D | Available |

• Backlight	Off / HSBLCL / BLC selectable
• Resolution	550TV Lines(color),600TV Lines(B/W)
• S/N (Y signal)	52dB (AGC Off, Weight On)
• Min.illumination	0.00006Lux @F1.2 (sens-up:x258, IR LED: ON)
• White Balance	ATW / AWB / Manual / AWC→SET
• Sense-up	Off / Auto / (Selectable limit x2 ~ x258)
• 3 DNR	Off / On (1~50 level adjustable)
• D-WDR	Indoor / Outdoor / Off
• D&N selection	Color / BW / Auto
• Digital zoom	On(x32) / Off
• Voltage	AC 24V / DC 12V(Dual voltage)
• Current consumption	LED On: 650 mA, LED Off: 180 mA
• Lens	DC Auto Iris Varifocal Lens (2.8mm-12mm)
• Operating temperature/Humidity	-10°C ~ +50°C. RH 95% Max.
• Storage temperature/Humidity	-20°C ~ +60°C. RH 95% Max.
• Dimensions	88 (W) x 105 (H) x 222 (D)mm
• Weight	3.2 Lbs

LIMITED 2 YEAR WARRANTY

This warranty gives the original purchaser specific legal rights and you may also have other rights, which vary from state to state. If our products do not function because of any defect in material or workmanship, we will repair free of charges for 2 years on parts and labor from the date of original purchase. This warranty does not cover modification, abuse, incidental or consequential damages unless the state of owner's residence specially prohibits limitations on incidental or consequential damages.

HOW TO OBTAIN FACTORY SERVICE

1. Original purchaser must fill out a warranty card and mail it to the factory with model number, serial number and the date of purchase.
2. We will repair or replace, and return to the owner the system under this limited warranty.
3. Please pack the system carefully and securely using the original packing materials, and send it prepaid and insured to: 13073 E. 166th St, Cerritos, CA 90703.
4. Please include a check for \$20.00 to cover the cost of return postage and handling. If the system is returned within the warranty period, please include a proof of purchase. If the system is out of warranty, you will receive an estimate of the repair cost for your approval before repair work will be begun.

AVAILABLE ACCESSORIES

CDR0460	Stand-alone 4 CH Digital Video Recorder (DVR)
CDR4450	Stand-alone 4 CH Digital Video Recorder (DVR)
CDR0860	Stand-alone 8 CH Digital Video Recorder (DVR)
CDR1660	Stand-alone 16 CH Digital Video Recorder (DVR)
CDR0850	Stand-alone 8 CH Digital Video Recorder (DVR)
CDR1650	Stand-alone 16 CH Digital Video Recorder (DVR)
CA100BP	100' BNC/Power to BNC/Power Extension cable and coupler

PACKAGE INCLUDES

- 1-True Day & Night Color Camera
- 1-Universal Mounting Bracket & 100' BNC/Power to BNC/Power cable
- 1-UL Approved AC Power Supply
- 1-Hardware Accessories Kit
- 1-Instruction Manual
- 1-Instruction Manual for OSD Control
- 1-Warranty Registration Card

INSTRUCTION MANUAL

PROFESSIONAL HIGH RESOLUTION COLOR CAMERA

MODEL Z570



Please read this manual thoroughly before operation.

Safety Instructions

IMPORTANT: PLEASE READ THIS MANUAL CAREFULLY BEFORE INSTALLATION AND RETAIN FOR FUTURE REFERENCE

Caution For Use

- ◆ Do not open the camera body.
- ◆ Do not insert object into the camera body.
- ◆ Do not touch with wet hands.
- ◆ Do not remove power cord while camera is in use.
- ◆ If signs of smoke or fire are detected, immediately remove main power

Caution For Installation

- ◆ Camera requires AC to DC regulated adapter, DC12 V 250mA or AC to AC 24V 300mA.
- ◆ Apply a power supply after installation of camera.
- ◆ Do not point the camera toward a strong spot light or direct sun light.
- ◆ Do not install in areas of high humidity / heat or low temperature.
- ◆ Do not install in areas of high dust or particle pollution.
- ◆ Do not expose the camera to rain or moisture.

Package Includes

1 - High Resolution Color Camera

1 - L - Wrench

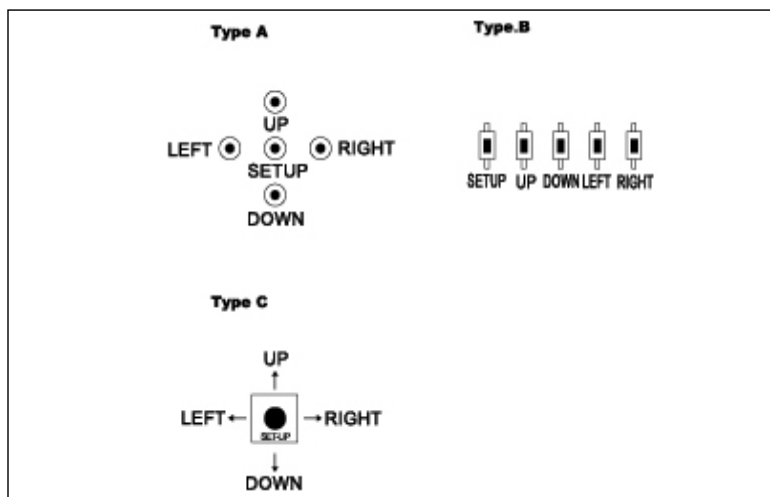
1 - Instruction Manual

1 - Warranty Registration Card

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◆ LANGUAGE	20
◆ RESET	

OSD Control Button Type



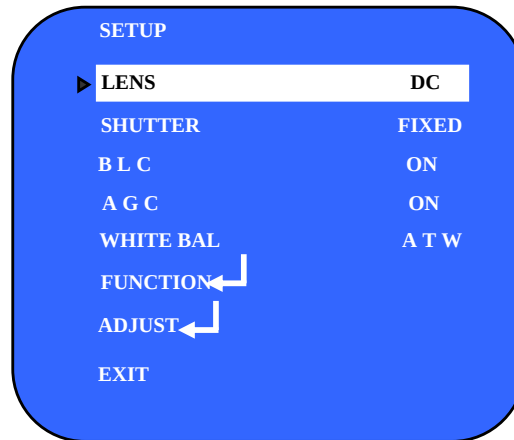
How To Operate the Camera Menu

◆ Setup Menu

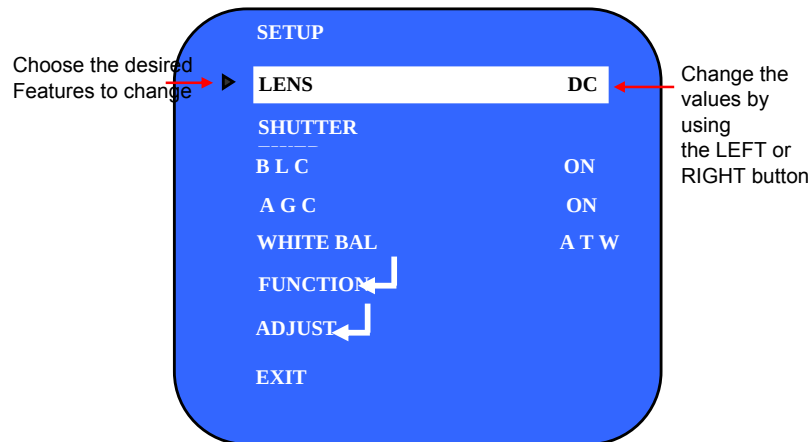
SETUP	
LENS	•MANUAL •DC •VIDEO
SHUTTER	•FIXED •MANUAL •AUTO •F L K
BACKLIGHT(B L C)	•ON •OFF
A G C(Auto Gain Control)	•ON •OFF
WHITE BAL.	•A T W •A W B •FIXED •MANUAL
FUNCTION	•RETURN •CAMERA ID •MIRROR •DAY & NIGHT •MOTION •PRIVACY •GAMMA •LANGUAGE •RESET
ADJUST	•ADJUST •RETURN
EXIT	

◆ **Menu Set Up**

1. Press the SET UP button
2. Setup menu will be displayed on the monitor



3. Move the Cursor by using the UP or DOWN button to choose the item



4. Press the LEFT or RIGHT button to change the values.
5. To exit, choose the EXIT by using the DOWN button and press the SETUP button

◆ **LENS(Not Included)**

Adjustment of brightness

1. Move the Indicator to LENS by pressing the UP or DOWN button in the SET UP menu.
2. Select the desired LENS type by pressing the LEFT or RIGHT button.

LENS	DC
SHUTTER	FIXED
B L C	ON
A G C	ON
WHITE BAL	A T W
FUNCTION	
ADJUST	
EXIT	

DC: DC Auto IRIS Lens
VIDEO: Video Auto IRIS Lens

MANUAL
VIDEO
DC

CAUTION

- ☛ If DC/VIDEO Auto IRIS Lens is selected, the SHUTTER SPEED should be "FIXED".
- If Manual IRIS Lens is selected, the SHUTTER SPEED should be "AUTO"

3. The brightness can be manually adjusted when DC Lens is selected.
Press the SET UP button and then adjust the brightness level by using the the LEFT or Right button.

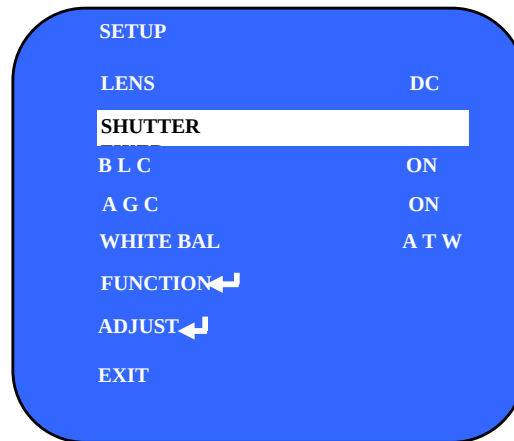
LENS DC	0 ~ 255
BRIGHTNESS	
RETURN	

4. Press the SET UP button again to return to the previous menu.

◆ **SHUTTER SPEED**

1. Move the Indicator to SHUTTER by pressing the UP or DOWN button in the SET UP menu.

2. Select the desired item by pressing the LEFT or RIGHT button.



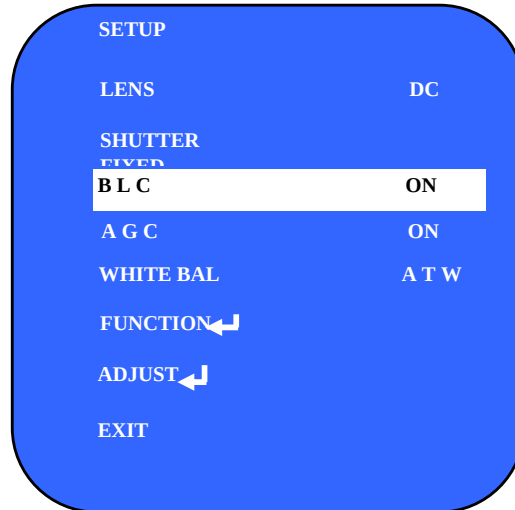
- a). Fixed: Lens shutter speed will be fixed to 1/100 sec (default) when DC lens is selected. The value can be changed with the LEFT or RIGHT button.
- b). Manual: Shutter speed can be manually adjusted.
- c). Auto: Shutter speed will be automatically controlled if the LENS is set to manual.
- d). F L K: Select "FLK" when image is being flickered by fluorescent lamp, radio waves etc.



3. Press the SET UP button again to return to the previous menu.

◆ BACKLIGHT(B L C)

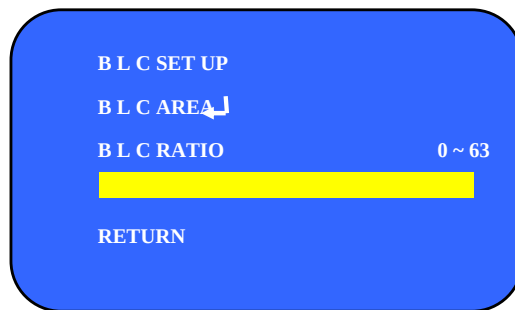
1. Move the Indicator to BLC by pressing the UP or DOWN button in the SET UP menu.



2. Select the ON or OFF by pressing the LEFT or RIGHT button.



3. The following menu will be displayed when the ON is selected.



4. Differential images between BLC is ON and BLC is OFF



BLC ON



BLC OFF

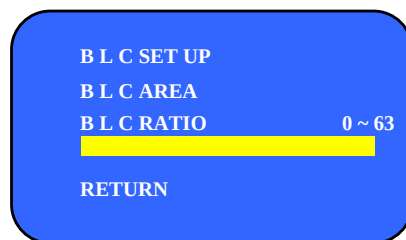
5. Selection of BLC Area

- Select the BLC AREA in the BLC SETUP menu by using the UP/DOWN button.
- Press the SET UP button and the above screen will be displayed.
- Move the Yellow square with the UP/DOWN or the LEFT/RIGHT button to select BLC area and press the SET UP button.
- Press the SETUP button for one second to exit this mode after setting the BLC area and then the following menu will be appeared.

- Choose the ALL CLEAR to clear the BLC area in the above menu.
- Choose the ALL SET to set BLC area on the whole screen in the above menu.
- Choose the RETURN to select BLC areas.
- Choose the EXIT to adjust BLC RATIO.

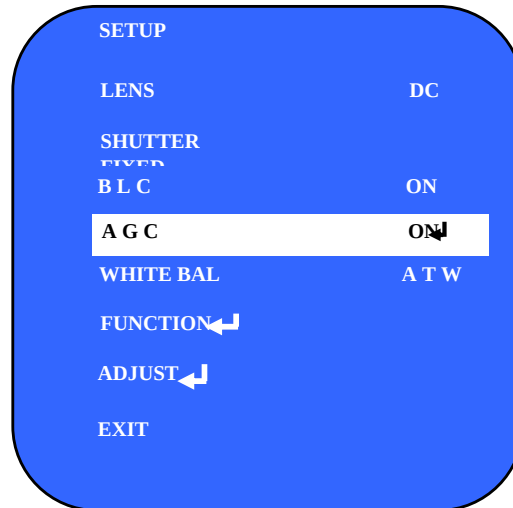
6. Adjustment of BLC RATIO

- Adjust BLC RATIO with the LEFT or RIGHT button.
- Choose the RETURN and press the SETUP button to go back to the SETUP menu.



◆ **A G C(Auto Gain Control)**

AGC helps to increase the image brightness.

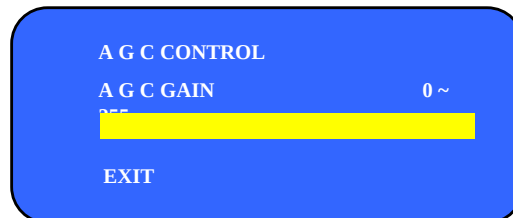


1. Move the indicator to AGC by using the UP or DOWN button and press the

RIGHT or LEFT button to select the ON or OFF

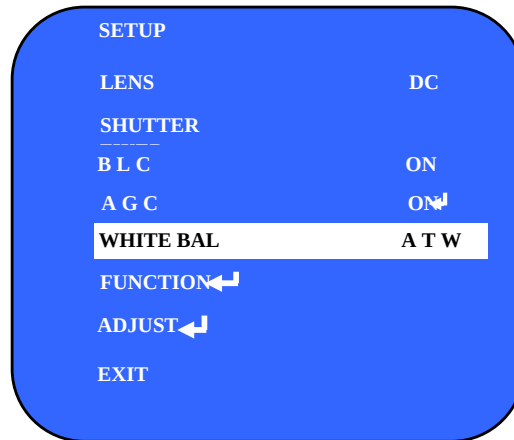
2. When the ON is selected, press the SETUP button and then the AGC GAIN CONTROL

menu will be displayed on the screen. Press the LEFT or RIGHT button to increase or decrease AGC GAIN level.



◆ **WHITE BALANCE**

- Move the Indicator to WHITE BAL by using the UP or DOWN button and press the RIGHT or LEFT button to select the ATW, AWB, FIXED and MANUAL.



① ATW(Auto Tracking White Balance)

When color temperature is 1,800°K ~ 15,000°K, select this mode.
(Ex: A fluorescent lamp, or outdoors)

② AWB(Auto White Balance)

The white balance is automatically adjusted in a specific environment.
In order to obtain the best result, press the SETUP button while the camera focuses on the white paper. If the environment including the light source is changed, you have to adjust the white balance again.

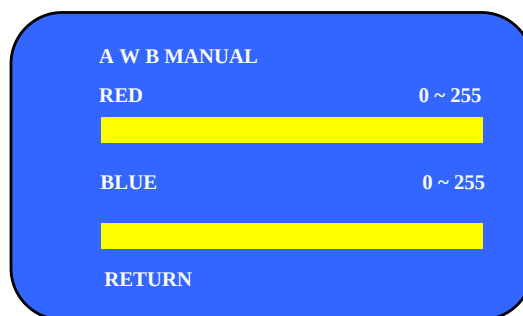
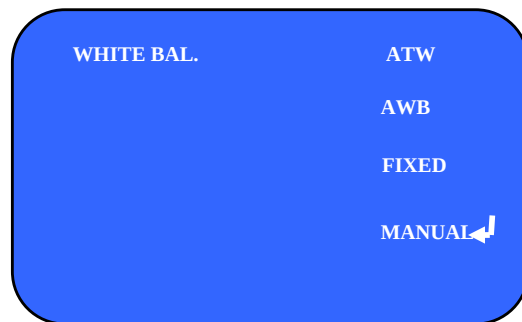
③ FIXED(Auto White Balance Fixed)

Auto white balance is fixed and adjusted by 4 steps.

④ MANUAL: To fine adjust, select the manual mode.

- Move the Indicator to WHITE BAL by using the UP or DOWN button and press the RIGHT or LEFT button to select the MANUAL.

- Press the SETUP button and then the AWB MANUAL menu will be displayed.



- Increase or decrease the value for RED(R-Gain) and BLUE(B-Gain) by pressing the LEFT or RIGHT button.

- After set up the desired value, move the Indicator to RETURN in the AWB MANUAL menu by pressing the DOWN button and press the SETUP button to return to

CAUTION

Proper White Balance may not be obtained under the following conditions.

In these case, select the AWB mode.

- When the scene contains mostly high color temperature object, such as

blue sky or sunset.

- When the scene is dim.

- If the camera faces a fluorescent lamp directly or is in an area with

◆ **FUNCTION**

- Move the Indicator to FUNCTION in the SETUP menu by using the UP or DOWN button and press the SETUP button to display the FUNCTION menu.

SETUP	
LENS	DC
SHUTTER	
B L C	ON
A G C	ON
WHITE BAL	A T W
FUNCTION	
ADJUST	
EXIT	



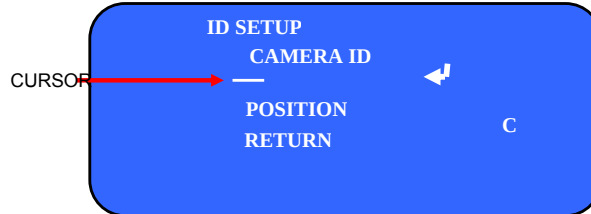
FUNCTION	
RETURN	
CAMERA ID	ON
MIRROR	OFF
DAY & NIGHT	AUTO
MOTION	ON
PRIVACY	ON
GAMMA	0.45
LANGUAGE	
RESET	

⚠ **CAUTION**

- If the CAMERA TITLE is set to "OFF", the camera title will not be displayed on the monitor

1. CAMERA TITLE

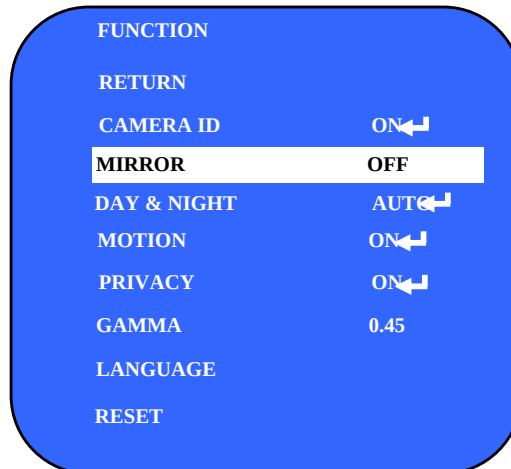
- Place the Cursor under the Character "C" by pressing the LEFT or RIGHT button and press the SETUP button to create the Camera title.
- Press the RIGHT button to place the cursor to the first place of



- Press the UP or DOWN button to select the required number or alphabet.
 - Move the Cursor for next charater by pressing the RIGHT button.
(Character begins from number "0 ~ 9" and follows from "A ~ Z")
- After completing the CAMERA ID, place the Cursor under the ENTER symbol and press the SETUP button to choose the POSITION in the ID SETUP menu.
- Choose the POSITION in the ID SETUP menu with the UP or DOWN button and press the SETUP button.
- Move the CAMERA ID by using the UP or Down and LEFT or RIGHT button to proper place to display on the screen and press the SETUP button to save.
- Choose the RETURN in the ID SETUP menu by pressing the UP or DOWN button and press the SETUP button to return to the previous menu.

2. MIRROR

- Press the RIGHT button to select the ON or OFF.



2.MIRROR

☞ OFF : Deactivation

☞ ON: The image will be reversed as follows.



MIRROR ON

MIRROR OFF

3. DAY & NIGHT

① Press the RIGHT button to set up the desired mode.

FUNCTION	
RETURN	
CAMERA ID	ON ←
MIRROR	ON
DAY & NIGHT	AUTO ←
MOTION	ON ←
PRIVACY	ON ←
GAMMA	0.45
LANGUAGE	
RESET	

☞ COLOR: The camera will always display color images.

☞ B/W : The camera will always display B/W images.

☞ AUTO: The color images will switch to B/W images under the low light conditions.

- Press the UP or DOWN button to select desired mode.
- Press the LEFT or RIGHT button to set up the desired value.

DAY	NIGHT	AUTO
DELAY		
		0 ~ 63
START LEVEL		
		0 ~ 255
END LEVEL		
		0 ~ 255
RETURN		

4. MOTION

Whenever an object's motion is detected, the motion symbol will be appeared on the upper right corner of the screen.

- Press the RIGHT button to set up the desired mode.

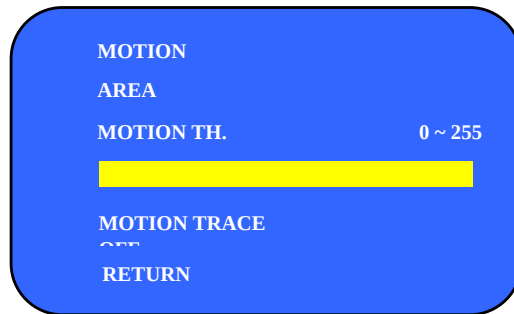
FUNCTION	
RETURN	
CAMERA ID	ON
MIRROR	ON
DAY & NIGHT	AUTO
MOTION	ON
PRIVACY	ON
GAMMA	0.45
LANGUAGE	
RESET	

CAUTION

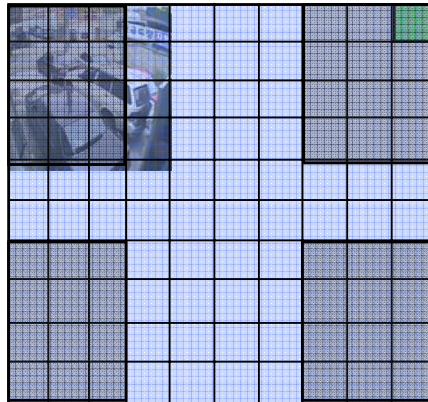
- Press the RIGHT button to activate the MOTION or deactivate.

- Press the SETUP button to display the MOTION menu on the screen.

ADJUSTMENT WHEN MOTION "ON"

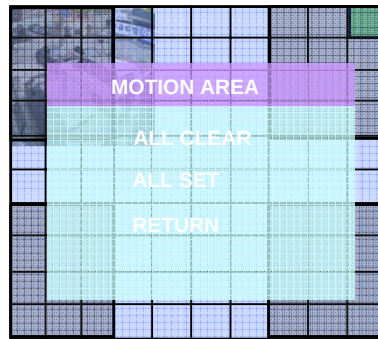


- Choose the AREA in the MOTION menu and press the SETUP button to select the motion area on the screen and then the Motion Area SETUP window will be displayed as follows.



How to set up Motion Areas

- Select the MOTION AREA in the MOTION menu by using the UP/DOWN button.
- Press the SET UP button and the above screen will be displayed.
- Move the Yellow square with the UP/DOWN or the LEFT/RIGHT button to select MOTION area and press the SET UP button.
- Press the SETUP button for one second to exit this mode after setting the MOTION area and then the following menu will be appeared.

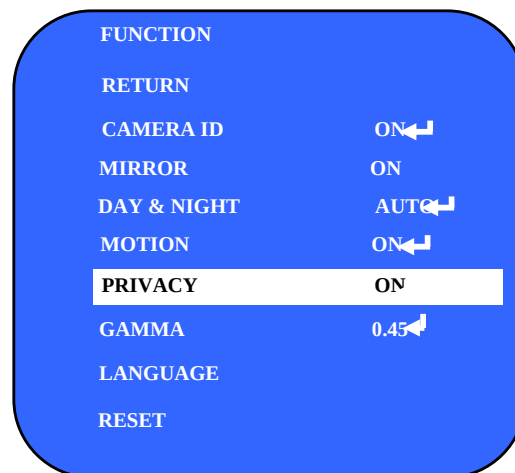


- Choose the ALL CLEAR to clear the MOTION area in the above menu.
- Choose the ALL SET to set MOTION area on the whole screen in the above menu.
- Choose the RETURN in the MOTION AREA menu to go back to the FUNCTION

5. PRIVACY

To mask the specific area where you want.

- ☐ Choose the PRIVACY in the FUNCTION menu with the UP or DOWN button and select the ON or OFF by pressing the LEFT or RIGHT button.



ON: PRIVACY mode Activated

OFF: Deactivated

5. PRIVACY

- Press the SETUP button to display the PRIVACY menu when the ON is selected.
- Set the "PRIVACY" to desired mode using by the LEFT or RIGHT button.

PRIVACY AREA

AREA SEL		AREA 0
LEFT		0 ~ 255
AREA STATE		

RIGHT		0 ~ 255
TOP		0 ~ 255
BOTTOM		0 ~

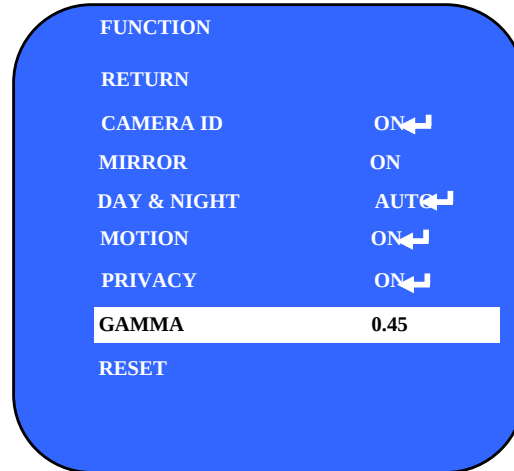
COLOR		0 ~ 15
RETURN		

■ How to set up desired area value

- 1) Desired area could be selected upto 0 ~ 3 steps by pressing the RIGHT button.
- 2) Area state could be selected "ON" or "OFF" mode.
- 3) Area setup value could be changed by pressing the UP or DOWN & LEFT or RIGHT button.
- 4) Privacy area color could be changed up to 15 colors.

6. GAMMA

Gamma value could be adjusted by pressing the LEFT or RIGHT button.



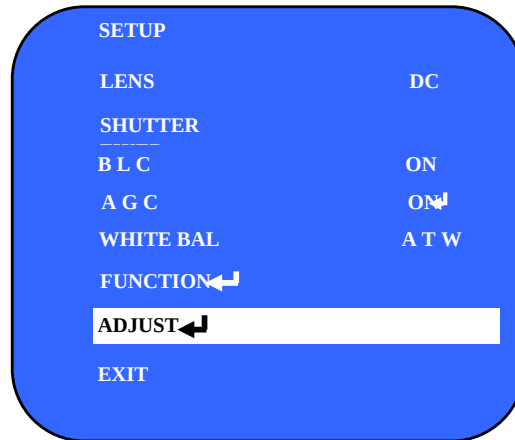
User's adjustment: 0.00 ~ 1.00

7. RESET

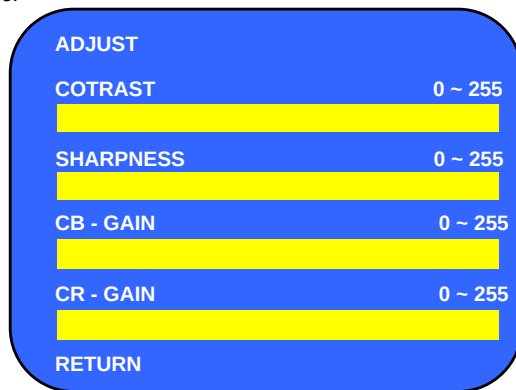
- Choose the RESET in the FUNCTION menu with the UP or DOWN button and press the SETUP button to select the YES or NO.
- If "YES" is selected, all the values will be changed to factory default setting.

◆ ADJUST

Choose the ADJUST in the SETUP menu with the UP or DOWN button and press the SETUP button to adjust contrast, sharpness, CB-gain and CR-gain.



① Press the LEFT or RIGHT button to increase or decrease the desired values.



② Choose the RETURN in the ADJUST menu and press the SETUP button to return to the previous menu.

◆ EXIT

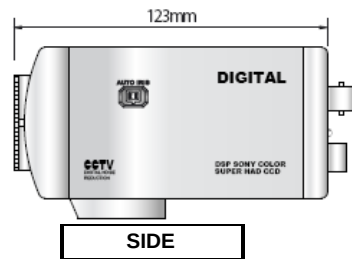
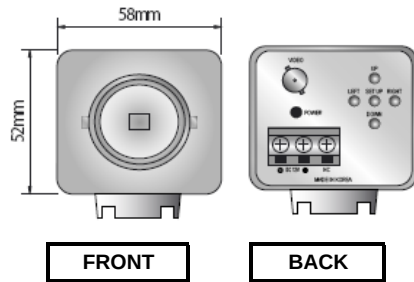
Choose the EXIT in the SETUP menu with the UP or DOWN button and press the SETUP button to exit.

TROUBLE SHOOTING	
PROBLEM	SOLUTION
Nothing appears on the screen.	• Check the power cable and line connection between the camera and monitor. • Check that you have properly connected the video cables.
The image on the Screen is dim.	• Is the camera lens stained with dirt? Clean the lens with a soft and clean cloth. • Adjust the monitor as required. • If the camera is exposed to very strong light, change the camera position. • Adjust the lens focus properly.
The image on the Screen is dark.	• Adjust the contrast feature of the monitor. • If you have an intermediate device, set the 75Ω / Hi - z properly.
The camera is not working properly and the surface of the camera is hot.	• Check that you have properly connected the camera to an appropriate power source.
MOTION DETECTION function is not active.	• Have you set " MOTION DET" menu to off? • Have you set " MD AREA" properly?
The color of the picture is not matched.	• Check that you have properly set the " WHITE BAL." menu
The image on the Screen flickers.	• Is the camera facing direct sunlight or fluorescent lighting? Change the camera position.

Specifications	
Image Sensor	1/3" Sony Super HAD CCD, 811H x 508V
Effective Pixels	768H x 494V
Scanning System	525 Lines, 2:1 Interlace
Horizontal Resolution	540 TV Lines
Shutter Speed	Auto, Manual (1/60 to 1/120,000 sec)
Sync. System	Internal
S/N Ratio	more than 50db (AGC off)
Minimum Illumination	0.1 Lux @F1.2
Video Output	Composite 1.0Vp-p @75 Ω
A G C	Off / On, 0 to 255
O S D	Camera ID & Menu
Motion Detection	Off / On
Digital Noise Reduction	Auto
White Balance	ATW/ AWB, Manual (1,800°K to 10,500°K)
Lens	C & CS Mount Lens(Not included)
Power Consumption	DC 12V $\pm$ 10%, 200mA Max.
Power Supply	AC 24V / DC 12V - (Non Polarity): Not included
Operating Temperature	-10°C to 50°C
Dimension	55(W) x 50(H) x 120(D)mm (without Lens)

* INSTALLATION

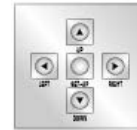
Dimensions & Cable Connection



1	1.Control(+)	Min. DC8V(Max. 0.5mA)
2	2.Control(-)	N.C
3	3.Drive(-)	VIDEO
4	4.Drive(+)	GROUND

* SETTINGS

Settings can be made using the 5 buttons located on the back panel on the camera.



OSD CONTROL

OSD

LENS	DC
SHUTTER	AUTO
BLC	ON
AGC	ON
WHITE BAL.	ATW
FUNCTION	
ADJUST	
EXITE	

OSD - FUNCTION

RETURN	
CAMERA ID	ON
MIRROR	OFF
DAY / NIGHT	COLOR
MOTION	OFF
PRIVACY	OFF
GAMMA	0.45
LANGUAGE	ENGLISH
RESET	

Available accessories

LENS3508	1/3" CS mount, Vari-focal DC Auto IRIS lens, 3.5 to 8mm
TV3X0310D-NB	1/3" CS mount, Vari-focal DC Auto IRIS lens, 3.0 to 8.5mm
TV7X7513D-NB	1/3" CS mount, Vari-focal DC Auto IRIS lens, 7.5 to 50mm
HS13	Outdoor Camera Housing, 138(W) x 117(H) x 375(L)mm
HS13HB	Outdoor Camera Housing, 138(W) x 117(H) x 375(L)mm w/ Heater & Blower, AC24V Power Supply(ADT241200: not included)
MBK010	Mounting Bracket for HS13 & HS13HB
MBK001	"L" type Mounting Bracket
ADT241200	AC to AC Power Supply AC24V 1.2A for HS13HB
CDR4170	Stand - alone 4CH DVR
CDR4770	MPEG-4 Stand - alone 4CH DVR
CDR0850	MPEG-4 Stand - alone 8CH DVR
CDR1610	Stand - alone 16CH DVR

Limited 2 Year Warranty

This warranty gives the original purchaser specific legal rights and you may also have other rights, which may vary from state to state. If our products do not function because of any defect in material or workmanship, we will repair it for free for 2 year on parts and labor from the date of original purchase. This warranty does not cover modification, abuse, incidental or consequential damages unless the state of owner's residence Specially prohibits limitations on incidental or consequential damages.

How to obtain Factory Service

- ◆ Original purchaser must fill out the warranty card and mail it to the factory with the model number, serial number and the date of purchase.
- ◆ We will repair or replace, and return the system to the owner under this limited warranty.
- ◆ Please pack the system carefully and securely using the original packing materials, and send it prepaid and insured to: **13073 E. 166th St., Cerritos, CA 90703**
- ◆ Please include a check for US\$15.00 to cover the cost of return postage and handling. If the system is returned within the warranty period, please include a proof of purchase. If the system is out of warranty, you will receive an estimate of the repair cost for your approval before repair work will be started.

MEMO



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